सत्यमेव जयते
Government of India

National Mission for Clean Ganga
Ministry of Jal Shakti
Department of Water Resources, River Development & Ganga Rejuvenation
Government of India

GOMTI
RIVER BASIN ATLAS

December 2022

Version - 1

cGanga
Centre for Ganga River Basin Management and Studies

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National Mission for Clean Ganga (NMCG)

NMCG is the implementation wing of National Ganga Council which was setup in October 2016 under the River Ganga Authority order 2016. Initially NMCG was registered as a society on 12th August 2011 under the Societies Registration Act 1860. It acted as implementation arm of National Ganga River Basin Authority (NGRBA) which was constituted under the provisions of the Environment (Protection) Act (EPA) 1986. NGRBA has since been dissolved with effect from the 7th October 2016, consequent to constitution of National Council for Rejuvenation, Protection and Management of River Ganga (referred to as National Ganga Council).

www.nmcg.in

Centre for Ganga River Basin Management and Studies (cGanga)

cGanga is a think tank formed under the aegis of NMCG, and one of its stated objectives is to make India a world leader in river and water science. The Centre is headquartered at IIT Kanpur and has representation from most leading science and technological institutes of the country. cGanga's mandate is to serve as think-tank in implementation and dynamic evolution of Ganga River Basin Management Plan (GRBMP) prepared by the Consortium of 7 IITs. In addition to this, it is also responsible for introducing new technologies, innovations, and solutions into India.

www.cganga.org

Acknowledgment

This river atlas document is a collective effort of a number of experts, institutions and organisations, some who had been associated with preparing the Ganga River Basin Management Plan (GRBMP) submitted to the Government of India in 2015, and others who joined later with their own independent expertise and enthusiasm. Contributions to the photographs and images for this document by individuals are gratefully acknowledged.

Suggested Citation

Gomti River Basin Atlas by cGanga and NMCG.

Contacts

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PREFACE

The Centre for Ganga River Basin Management and Studies ("cGanga") was established in the year 2016 as a comprehensive think-tank for river restoration and to assist the National Mission for Clean Ganga (NMCG), Jal Shakti Ministry, GoI, for "continual scientific support in the implementation and dynamic evolution of the Ganga River Basin Management Plan" for conservation of National River Ganga. In keeping with this goal, cGanga has been actively developing detailed knowledge capsules, tools and procedures to enable comprehensive and early rejuvenation of the Ganga River network across the whole basin. While a river basin approach is essential for analyzing and comprehending the Ganga river's status and needs to regain her wholesomeness, the implementation strategies of the required interventions must keep in mind the role and individuality of each State. Thus, it is necessary to focus on state-level sub-strategies of natural resource management for holistic revival of River Ganga.

The present document attempts to provide a comprehensive picture of the Gomti basin river network in the States of Uttar Pradesh and Uttarakhand. This Atlas for the selected basins was created entirely by cGanga, with original mapping of all identifiable rivers, and with selective additional information culled from different sources for completeness. Many of the rivers and maps given here are not readily available elsewhere, and we expect them to prove useful to the many Central, State, and other organizations engaged in the river, water or natural resource management in the Gomti basin.

In preparing this document dedicated members of cGanga spent a lot of time in diligently studying, analysing, acquiring and compiling diverse information from diverse sources. Many people and organisations outside cGanga also helped in its preparation, which aided in its comprehensiveness. We are grateful to one and all of them.

VINOD TARE
Professor & Founding Head, cGanga
IIT Kanpur

CONTENTS

ACRONYMS AND ABBREVIATIONS

BCM	:	Billion Cubic Meter
cGanga	:	Centre for Ganga River Basin Management and Studies
Cumec	:	Cubic meter per second
CWC	:	Central Water Commission
EPA	:	Environmental (Protection) Act
GIS	:	Geographic Information System
GRBMP	:	Ganga River Basin Management Plan
Km	:	Kilometer
LULC	:	Land Use/ Land Cover
M	:	Meter
MCM	:	Million Cubic Meter
mm	:	millimeter
MW	:	Mega Watt
NGRBA	:	National Ganga River Basin Authority
NMCG	:	National Mission for Clean Ganga
SoI	:	Survey of India
Sq. Km.	:	Square Kilometer
SWAT	:	Soil & Water Assessment Tool
UK	:	Uttarakhand

INTRODUCTION

The Gomti River basin lies mainly in the state of Uttar Pradesh (UP). The climate of the basin is semi-arid to sub-humid tropical with average annual rainfall varying from 850 to 1100 mm. This river is one of the important tributaries of the Ganga River and it meets the Ganga River in Varanasi (UP). The present volume is a first attempt to map the rich river network of Gomti basin in as fine a detail as possible. Much of the information contained in this River Atlas is not available in any other document and was created in original from available earth images with appropriate data and image processing tools and software on GIS platform. Naturally, there may be shortcomings in some of the maps herein, including missing small streams, which can be expected to be duly refined and included in later versions. Also, a river atlas is often useful in conjunction with other natural resource and anthropogenic information such as the *distribution of rainfall and other climatic data, other waterbodies, forest cover, elevations, soil types, other physiographic information, land use, tourist and pilgrimage centres, and infrastructure including roads and highways*. Such other relevant information is also expected to be processed, assembled and included later in a fuller version of this Atlas. In the meanwhile, it is hoped that this Atlas will provide a useful window to Gomti basin river resource.

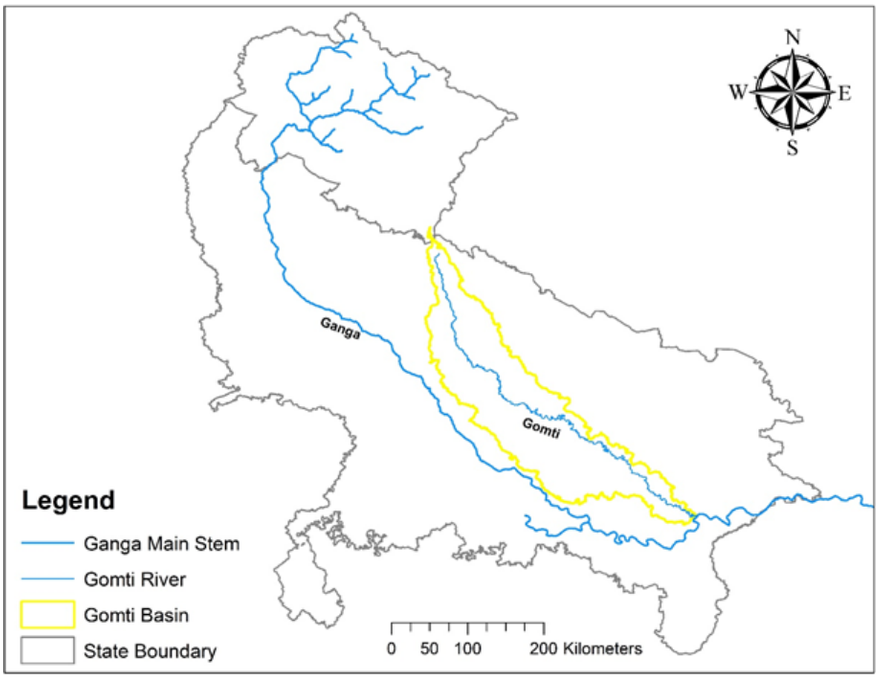


Figure: Location of Gomti Basin

GOMTI BASIN: SALIENT FEATURES

S No	Particulars	Details
1	State Extent	Latitude: 25° 25′ to 28° 40′ N and Longitude: 79° 59′ to 83° 14′ E
2	Total Geographical Area (sq. km)	32,674.42 sq.km
3	Forest Area (Reference Year 2018) (Hectare)	168,139
4	Area contributing to Ganga Basin (sq km)	32,674.42
5	Percentage of the Ganga Basin Area (%)	6.2
6	Districts (Census 2011)	UP: 16; UK: 01
7	Towns (Census 2011)	(Class I: 06; Class II: 06; Class III: 19; Class IV: 33; Class V: 37; Class VI: 15)
8	Total Population (Census 2011)	10,086,292
9	% Population in Ganga Basin	2.05
10	Gram Panchayats	UP: 11, 354 UK: NA
11	Census Villages (Census 2011)	UP: 15,713 UK: 01
12	Average Annual Rainfall (mm)	850 to 1100
13	Average Temperature Range (°C)	4.0 – 40.8
14	Major Rivers	Sai, Sarayan, Behta, Kalyani, Kathana, Reth, Pili, Nand
15	Number of Major Basins (04 or above order river basins)	08
16	Number of Water Resources Structures	(Dams: 0, Barrages: 2, Weir: 0, Anicuts: 0, Lifts: 0, Power houses: 0)
17	Number of Ground Water Observation wells	Level: 1496 Quality: 199
18	Number of CWC Sites	10

GOMTI BASIN: RIVERS TRAVERSING THROUGH VARIOUS DISTRICTS IN BASIN AREA

S.No	State	District	Area (sq km)	Population (census 2011)	Growth Rate (%)	Density	River
1	Uttar Pradesh	Pilibhit	3686	2031007	23.45	551	Gomti River, Gachai River, Gohai Drain, Joknai River, Drain, Barua River.
2		Shahjahanpur	4388	3006538	18	685	Gomti River, Bhainsi River, Barua River, Kalwakundi Drain, Drain, Kathna River, Stream 1, Joknai River, Chhuha Drain.
3		Kheri	7680	4021243	25.38	524	Sai/Bhainsta, Bhainsta Drain, Chhuha Drain, Chhuha Nala, Mundia Drain, Kathwa Drain, Khareri Drain, Kathna River, Drain3, Stream1, Drain2, Drain, Kalwakundi Drain, Pirai Drain, Abgawan Drain, Sarayan River, Suthehra Drain, Jamuari Drain, Gona River
4		Sitapur	5743	4483992	23.88	781	Gomti River, Gona River, Bhadewan Drain, Gaura Drain, Godia, Barkawajor River, Drain, Stream12, Kalyani, Drain, Abgawan Drain, Parsehra Drain, Sarayan River, Stream1, Pirai Drain, Stream2, Beta River, Stream14, Saunri River, Stream16, Chitwa Drain, Kathna River, Kasera Drain, Siwai Drain, Khareri Drain
5		Hardoi	5986	4092845	20.44	684	Sai/Bhainsta, Bhainsta Drain, Chhuha Drain, Rabha Drain, Bijgawan Drain, Saraunia Drain, Katghara Drain, Andi Drain, Gomti River, Sewa Drain, Japra Drain, Pokhri Drain, Chhoha/ Behta Gokul Drain, Balehra Drain, Stream 38, Mahri Drain, Stream37, Shamaspur Drain, Kachhauna Drain, Akhreria Drain, Stream36, Lubar/Rithwan Drain, Gharera Drain, Drain, Ahirori Drain, Kharja Drain, Kherwa Drain, Chitauri River, Stream15, Hawal River, Akhddi River, Goswa River, Jhilingi River/Drain, Beta River, Loni Drain, Stream1, Sakrela Drain,
6		Unnao	4558	3108367	15.11	682	Stream36, Lubar/Rithwan Drain, Riswan Drain, Tainra Drain, Stream42, Sakrela Drain, Behta/Beta River, Nagwa Drain, Stream2, Sarai Joga Drain, Barer Drain, Kusalia Drain, Basaha Drain, Kharui Drain, Sarhi Drain, Gulariha Drain

7	Uttar Pradesh	Lucknow	2528	4589838	25.82	1816	Behta/Beta River, Sakrela Drain, Panjharia Drain, Bhadwana Drain, Bhadesamau Drain, Nakha River, Akhddi/Akraddi Drain, Jhilingi River/Drain, Ladhana Drain, Matariya/Saidpur Drain, Kharsara Drain, Nabi Pnad Drain, Tikwa Drain, Nagarian Drain, Stream17, Kukrail River, Behwa River, Loni Drain, Bhujniya Drain, Imli Bandhan Drain, Dhoakalpur Drain, Drain, Reth River, Nagwa Drain, Stream1, Samdia Drain, Sai/ Bhainsta River, Stream42, Barer Drain, Bakh Drain, Naiya River, Shivgarh Drain, Indarjitkhera Drain, Karela Drain, Loni Drain, Bhati Drain, Niwazkhera Drain, Bindawa Drain, Loni Drain, Loni Drain, Mitauli Drain, Drain, Gomti River
8		Barabanki	4402	3260699	21.96	741	Gomti River, Drain, Stream18, Reth River, Lohsari Drain, Murra Drain, Nanmau Drain, Stream1, Jamuria Drain, Maholia Drain, Nawar Drain, Narwa Drain, Reth River, Drain/Gangauli Drain, Drain, Loni Drain, Stream1, Shivgarh Drain, Stream13, Ghagra/Arahi River, Ganda Drain, Kanai River, Stream1, Inhauna Drain, Stream1, Kalyani River, Rari Drain, Naiya Drain, Joniya Drain, Nyuli Drain, Stream1, Drain, Bhoria Drain, Stream2, Ambar Drain, Stream4, Drain1, Stream5, Stream6, Gari River, Drain, Stream7, Stream8, Stream9, Stream10, Jhawa Drain, Drain2, Stream12
9		Raebareli	4609	3405559	18.56	739	Sai/Bhainsta River, Bakh Drain, Sarhi Drain, Basaha Drain, Kalwanaya Drain, Sodha Drain, Stream35, Didauli Drain, Stream41, Sonh Drain, Bala Khala Minor, Stream33, Stream32, Isaur Drain, Chop Drain, Naiya River, Shivgarh Drain, Drain, Rahaniya Tal, Mohanganj Drain, Stream26, Sutia drain, Stream2, Naiya Drain, Stream3, Ganda Nala Drain, Naiya Drain, Drain, Stream1, Inhauna Drain, Kandu Drain,
10		Sultanpur	4436	3797117	18.11	856	Ghagra/Arahi River, Kanai River, Talangla River, Betwa River, Betwa Drain, Richura Kadu Drain, Karahiya Drain, Kandu Drain2, Naiya Drain, Stream1, Inhauna Drain, Bisawan Drain, Bhatpurwa Drain, Babaira Drain, Stream1, Jamoria Drain, Kanria Drain, Stream12, Stream11, Kadipur Drain, Drain, Pili River, Pili River, Stream2, Stream1, Stream3, Chamrauha River, Gurri River, Ranikund Drain, Stream1, Stream3, Masiawantal Drain, Naiya Drain, Stream3, Gomti River.
11		Faizabad	2341	2470996	18.29	1056	Bhoria Drain, Stream1, Kalyani River, Betwa River, Stream1, Gomti River, Betwa Drain.

S.No	State	District	Area (sq km)	Population (census 2011)	Growth Rate (%)	Density	River
12	Uttar Pradesh	Pratapgarh	3717	3209141	17.5	863	Sai/Bhainsta River, Stream26, Chhoiya Drain, Umarour Drain, Rahaniya Tal, Naiya Drain, Stream1, Sutia Drain, Naiya Drain, Loni River, Stream1, Stream2, Sakarni River, Stream1, Birsinghpur Drain, Chamrauha River, Stream1, Stream2, Ranikund Drain, Stream1, Stream24, Bakulahi River, Stream1, Stream2, Stream3, Hiraganj Drain, Umri/Pariwan Drain, Nariyanwa Drain, Baragaon Drain, Stream22, Stream21, Paraya Drain, Stream1, Patti Drain, Stream1, Stream18, Stream1, Stream1, Stream1, Tambura Drain, Drain, Stream1, Stream2, Pili River, Drain, Pili Nadi, Gomti River.
13		Allahabad	5482	5954391	20.63	901	Bakulahi River, Stream4, Stream3.
14		Jaunpur	4038	4494204	14.89	1113	Sai/Bhainsta River, Stream18, Stream17, Stream16, Stream15, Stream14, Stream13, Stream12, Stream1, Stream11, Stream10, Stream9, Stream1, Stream8, Stream7, Stream6, Stream5, jogirpur Drain, Stream1, Sulkhapur Drain, Stream3, Nand River, Stream2, Stream1, Sewain River, Pili River, Lakhia/Kaliyara Drain, Stream1, Stream1, Tambura Drain, Stream10, Stream9, Gathia Drain, Sewai River, Stream8, Stream7, Balohi River, Stream1, Stream6, Stream5, Tain Drain, Stream4, Stream3, Stream2, Stream1, Atthi River.
15		Varanasi	1535	3676841	17.15	2395	Nand River, Stream5, Stream4, Stream3, Stream2, Stream1, Stream1, Atthi Drain, Stream2.
16		Ghazipur	3377	3620268	19.18	1072	Gomti River.

GOMTI BASIN: MAJOR BARRAGES ON THE RIVER GOMTI AND HER TRIBUTARIES

MAJOR BARRAGES ON THE RIVER YAMUNA AND HER TRIBUTARIES													
S.No	State	District	Name	Lat	Long	River	Year Completed	Status	Type	Length (m)	Max ht. Above Foundation (m)	Total Volume (cumec)	Design Flood (cumec)	Purpose
1	Uttar Pradesh	Lucknow	Gomti Barrage	26.85538	80.96828	Gomti River	1979	Completed	Barrage	202				
2	Uttar Pradesh	Lucknow	River Weir	26.84061	80.96666	Gomti River			Weir					

CWC BASINS

Basin Code	Basin Name
1	Indus (Up to border)
2a	Ganga
2b	Brahmaputra
2c	Barak and others
3	Godavari
4	Krishna
5	Cauvery
6	Subernarekha
7	Brahmani and Baitarni
8	Mahanadi
9	Pennar
10	Mahi
11	Sabarmati
12	Narmada
13	Tapi
14	West flowing rivers from Tapi to Tadri
15	West flowing rivers from Tadri to Kanyakumari
16	East flowing rivers between Mahanadi and Pennar
17	East flowing rivers between Pennar and Kanyakumari
18	West flowing rivers of Kutch and Saurashtra including Luni
19	Area of inland drainage in Rajasthan
20	Minor rivers draining into Myanmar (Burma and Bangladesh)

Source: River Basin Atlas of India, Ministry of Water Resources, GoI (October 2012)

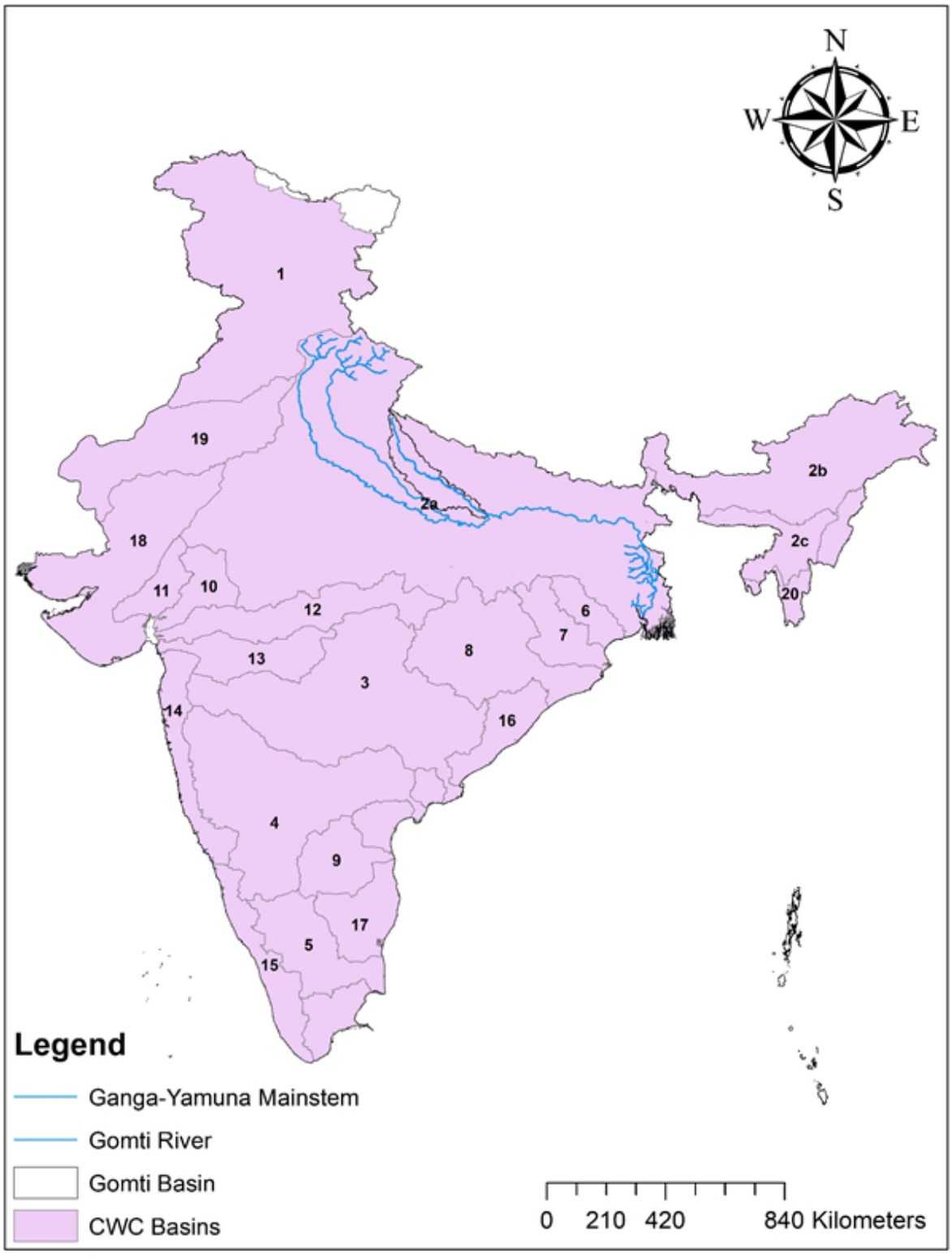
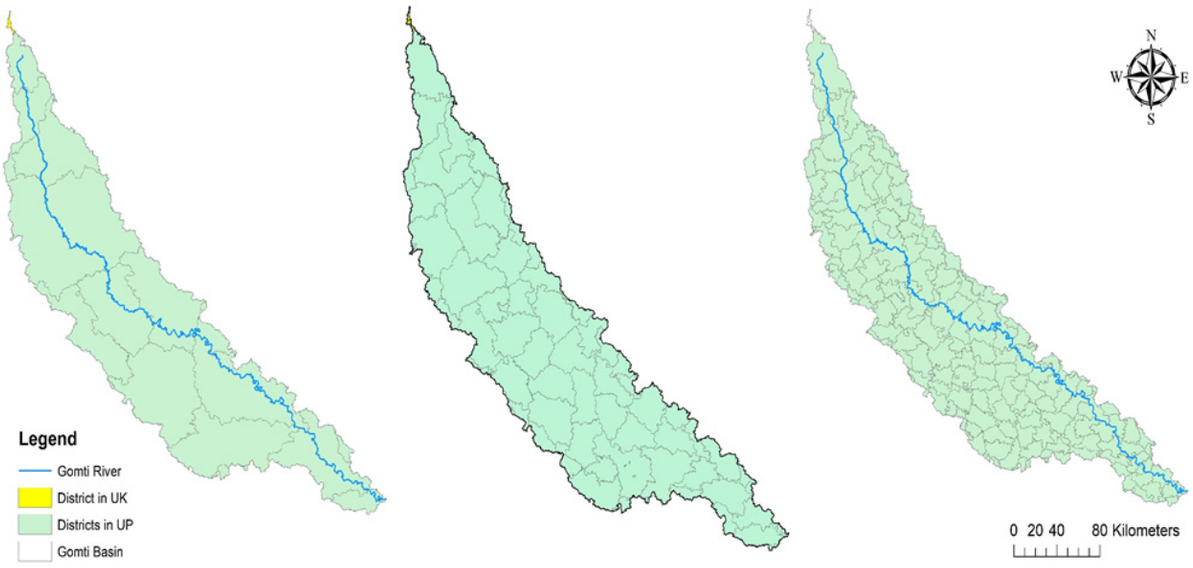


Figure: CWC Basins in India

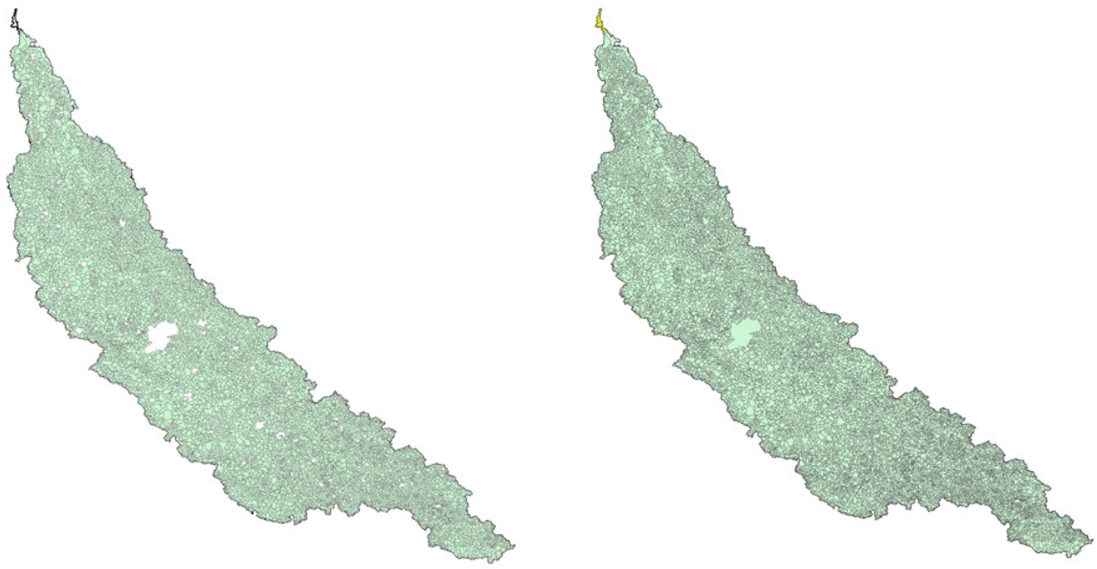
GOMTI BASIN: ADMINISTRATIVE STRUCTURE



Districts:
UP: 16; UK: 01

Tehsil:
UP: 68; UK: 01

Blocks:
UP: 179; UK: NA



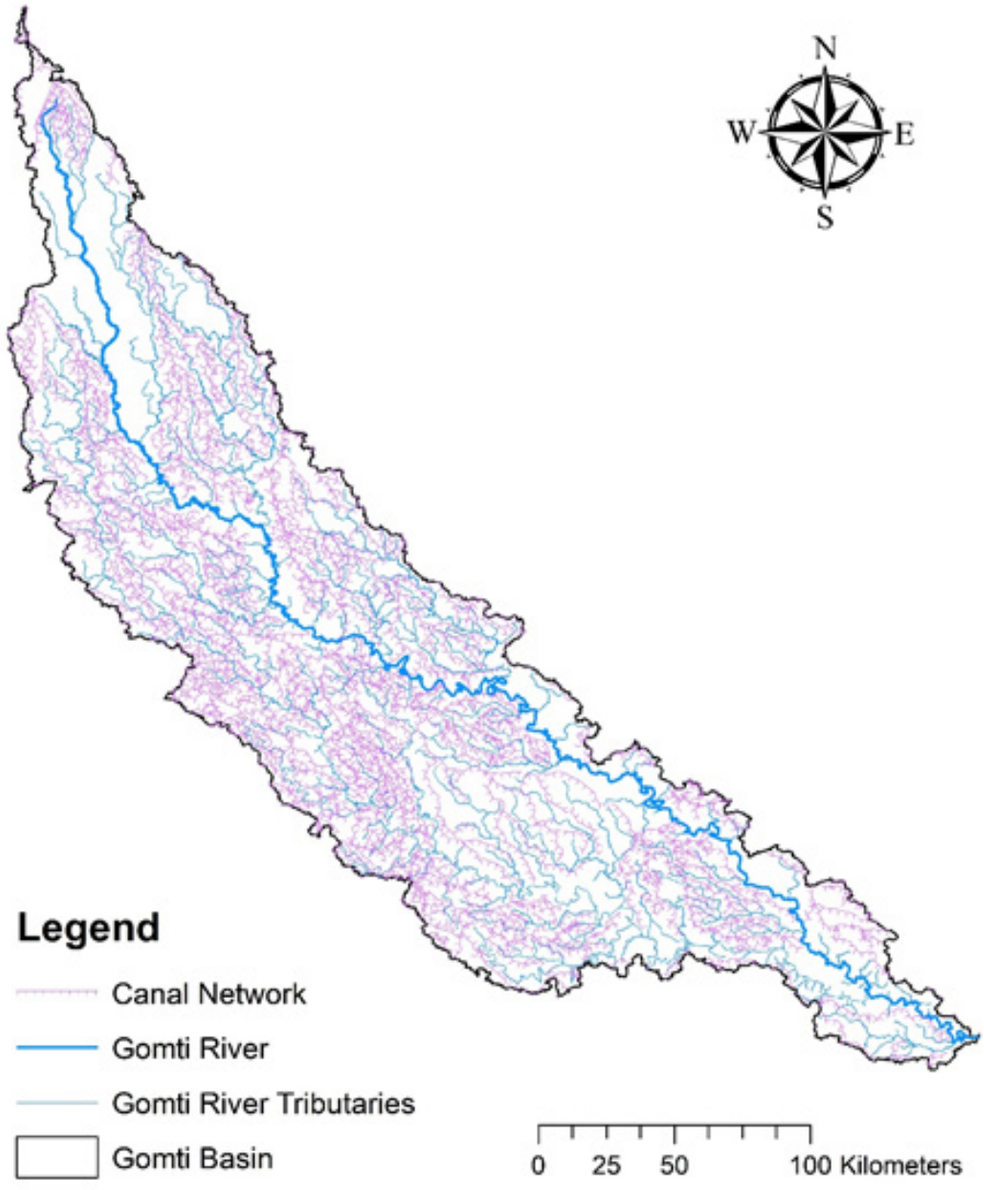
Gram Panchayat:
UP: 11354; UK: NA

Villages:
UP: 15713; UK: 01

Figure: Administrative Structure of the Gomti River Basin

Source: SOI

GOMTI BASIN: CANAL NETWORK



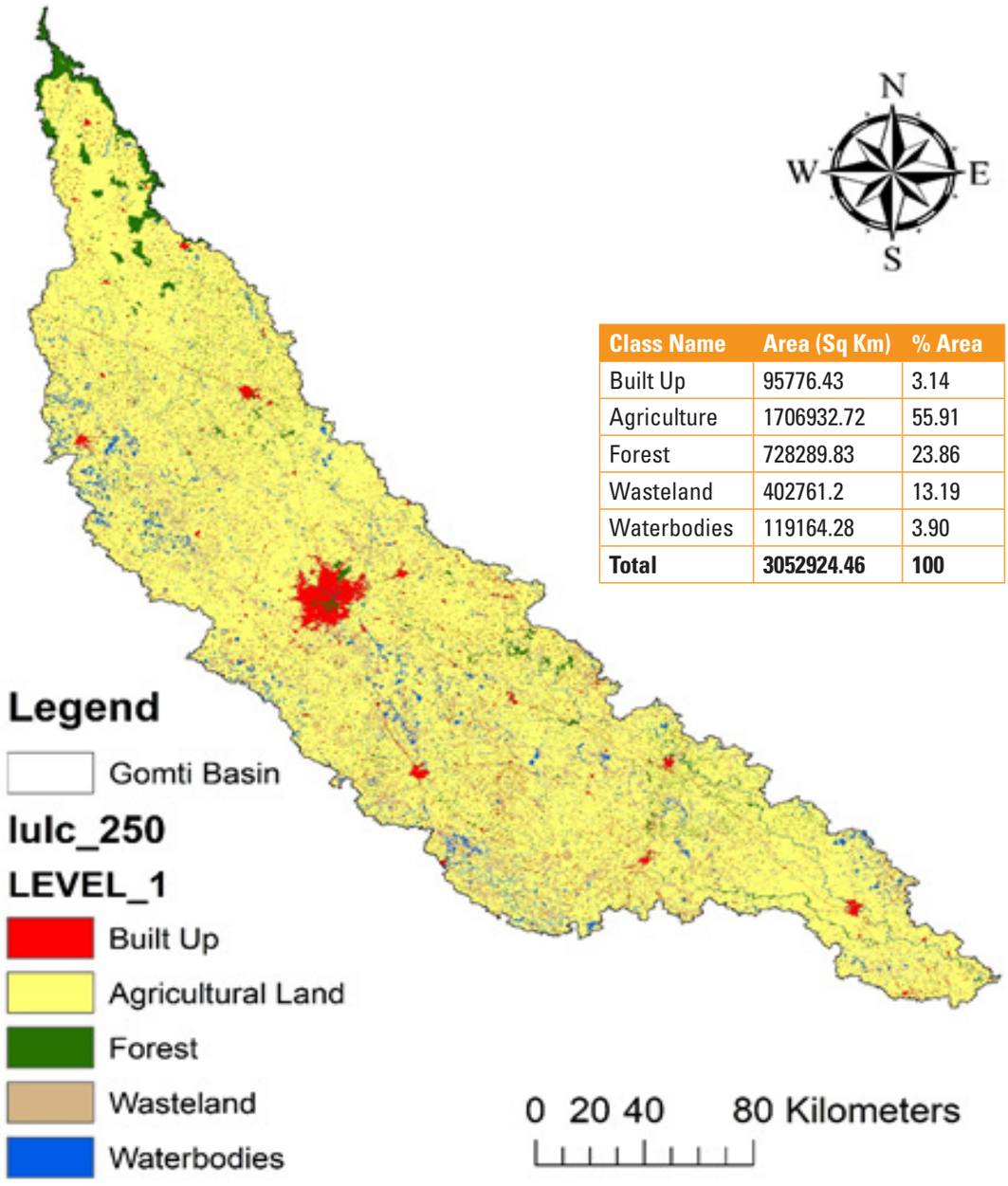
Total Canal Network: 9195.59 Km
Sarda Canal Major Irrigation Project: 4454.53 Km
Sharda Sahayak Major Irrigation Project: 4212.40 Km
Aliganj Major Irrigation Project: 268.78 Km
Madho Tanda Major Irrigation Project: 167.11 Km
Dalmau Pump Canal Stage - I and Stage - II Major Irrigation Project: 92.77 Km

GOMTI BASIN: WATERBODIES MAP

Total No. of waterbodies: 2800

Source: NWIC

GOMTI BASIN: LAND USE LAND COVER [250K]

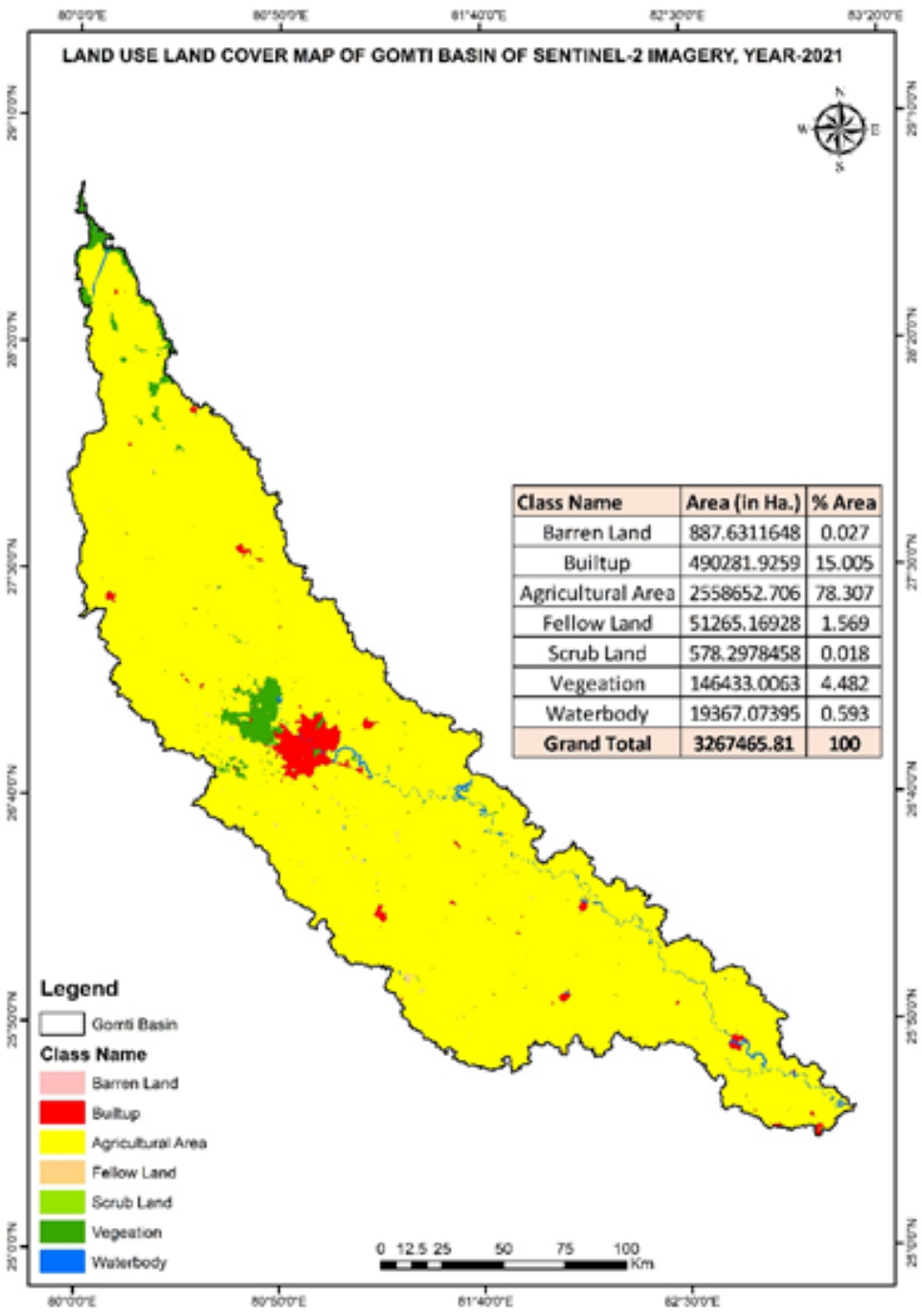


Class Name	Area (Sq Km)	% Area
Built Up	95776.43	3.14
Agriculture	1706932.72	55.91
Forest	728289.83	23.86
Wasteland	402761.2	13.19
Waterbodies	119164.28	3.90
Total	**3052924.46**	**100**

Source: NRSC

Imagery: multi-temporal satellite data of IRS AWiFS sensor
Year: 2017-18
Accuracy: 90.07 % with a range of 86 to 95 % in different states.

HINDON BASIN: LAND USE LAND COVER



Class Name	Area (in Ha.)	% Area
Barren Land	887.6311648	0.027
Builtup	490281.9259	15.005
Agricultural Area	2558652.706	78.307
Fellow Land	51265.16928	1.569
Scrub Land	578.2978458	0.018
Vegeation	146433.0063	4.482
Waterbody	19367.07395	0.593
Grand Total	**3267465.81**	**100**

Source: ESRI

Imagery: Sentinel-2
Year: 2021
Accuracy: 85.96%

GOMTI BASIN: ANNUAL RAINFALL [1960 – 2020]

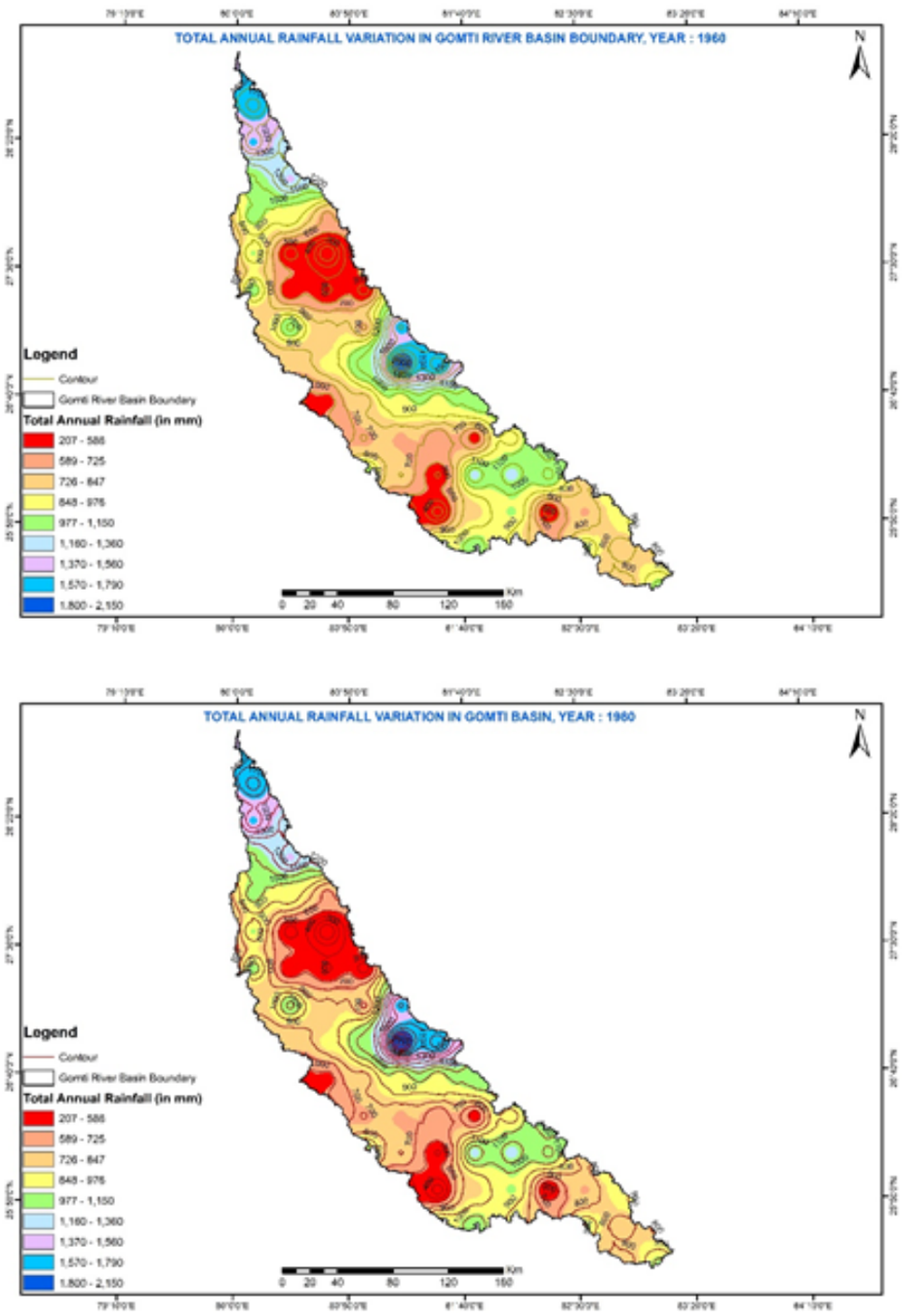


Figure: Isohyetal Maps of Gomti River Basin, Source: IMD Rainfall Data

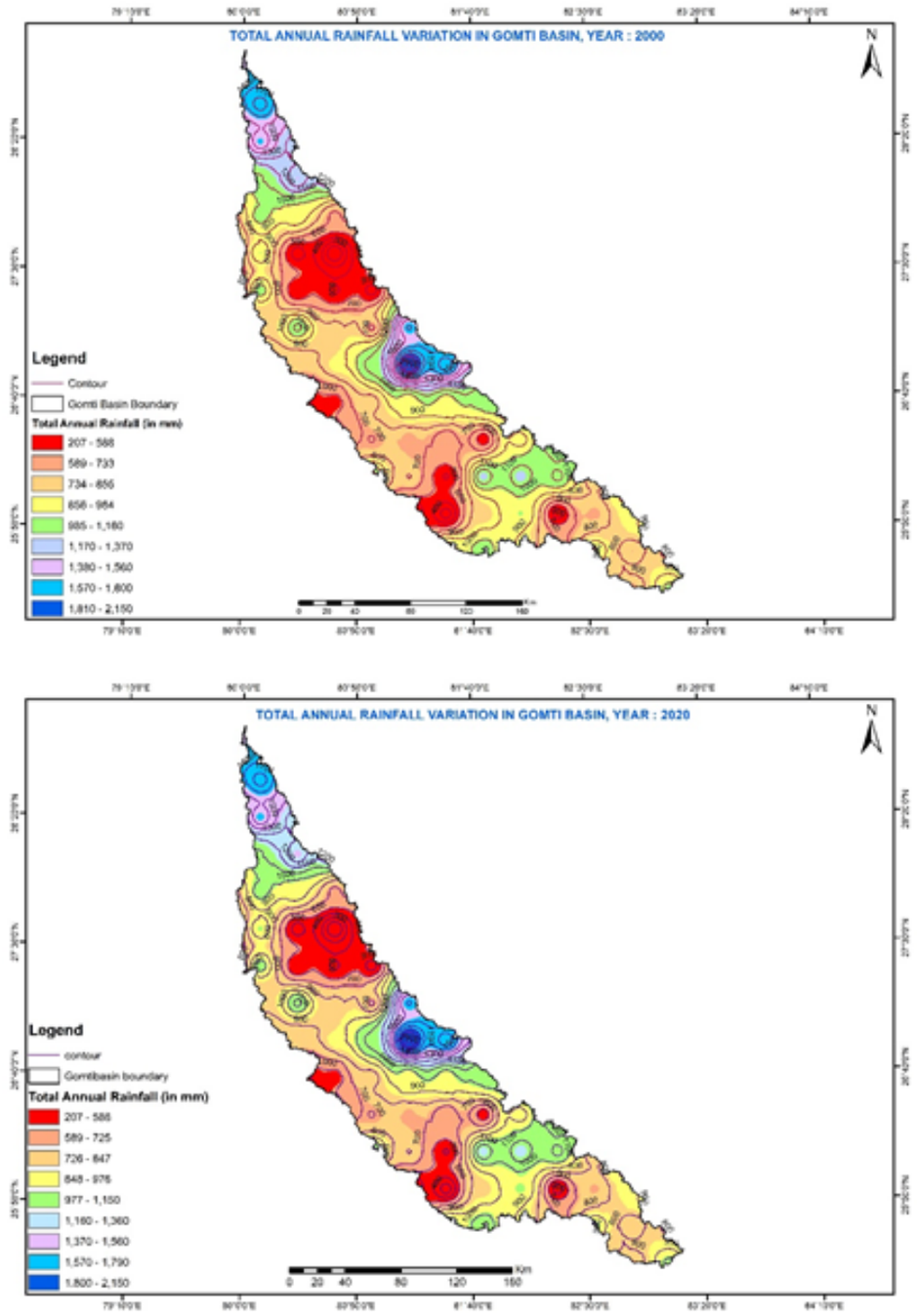


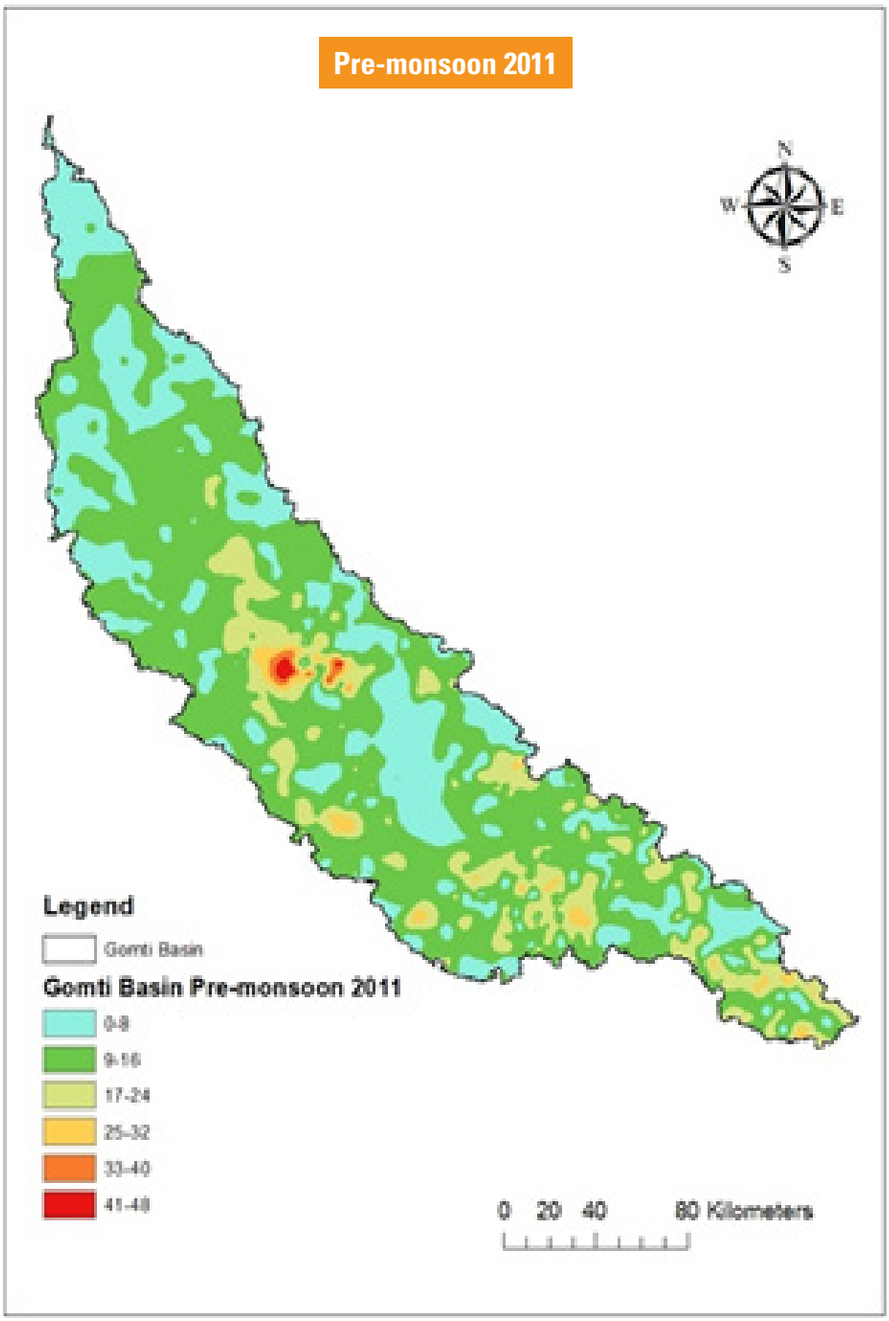
Figure: Gomti Basin Isohyetal Maps, Source: IMD Rainfall Data

GOMTI BASIN: GW LEVEL AND QUALITY STATION

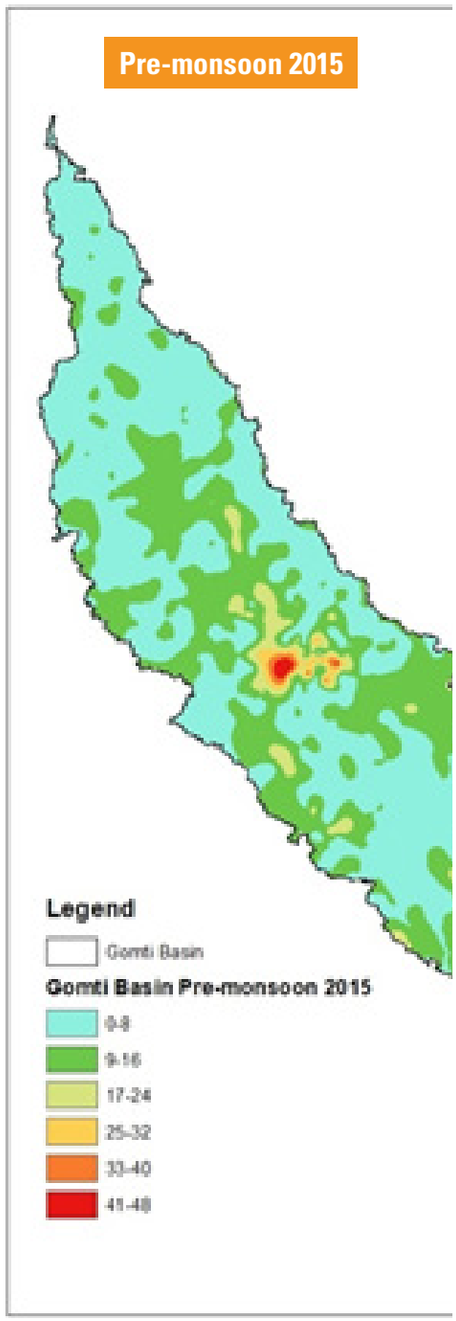
Figure: Groundwater level and quality stations in Gomti River Basin **Source: CGWB**

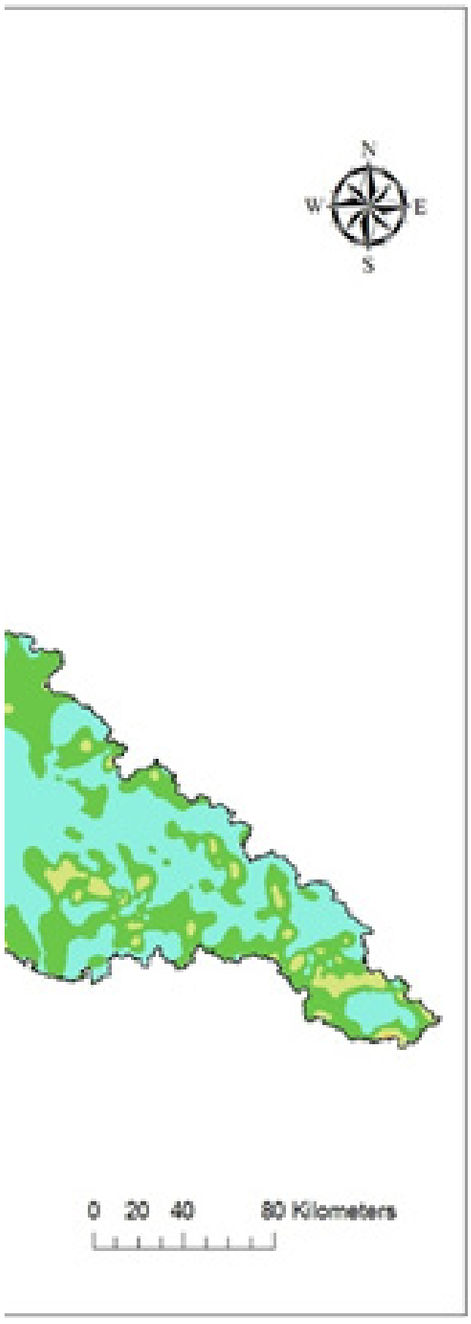
GOMTI BASIN: GROUNDWATER ELEVATION CONTOUR

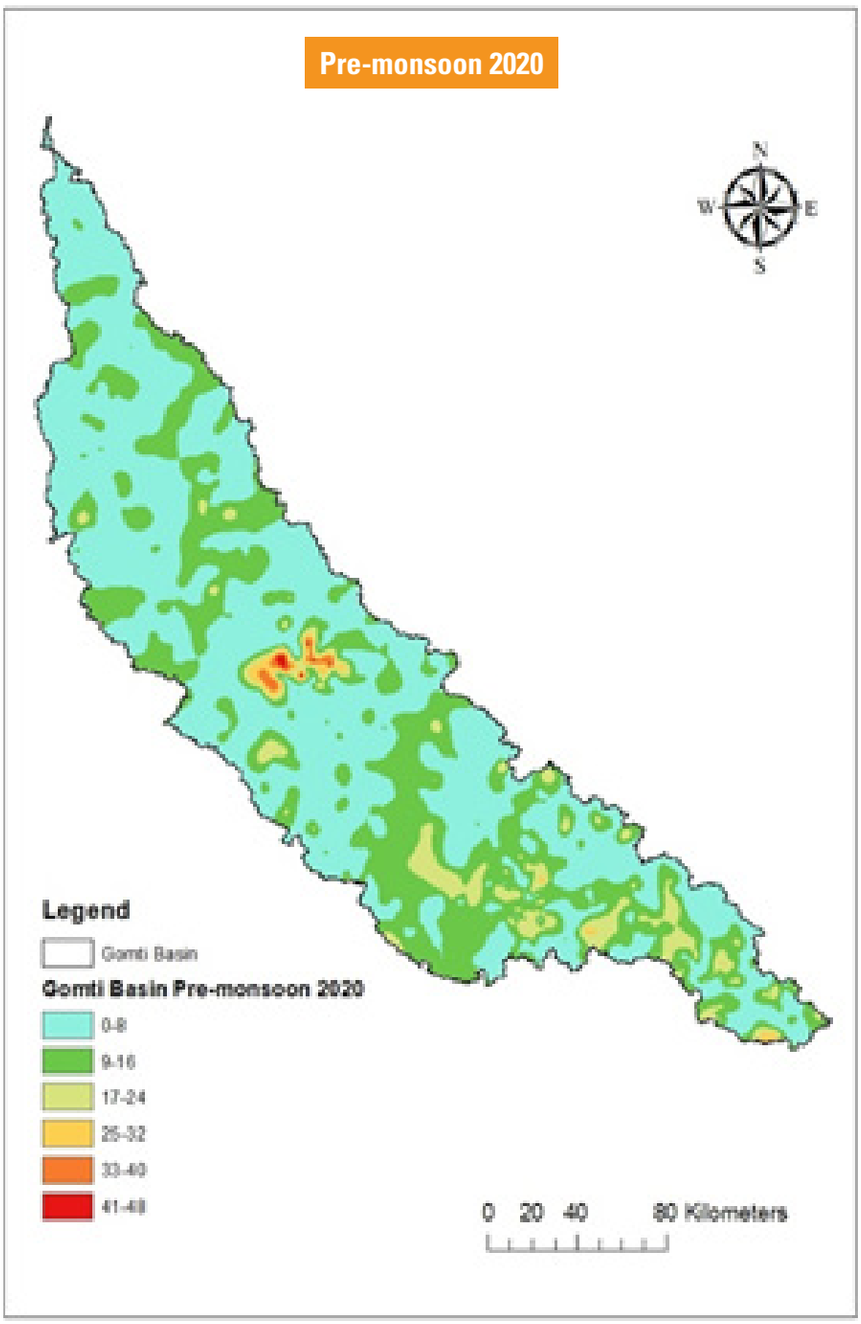
Pre-monsoon 2011



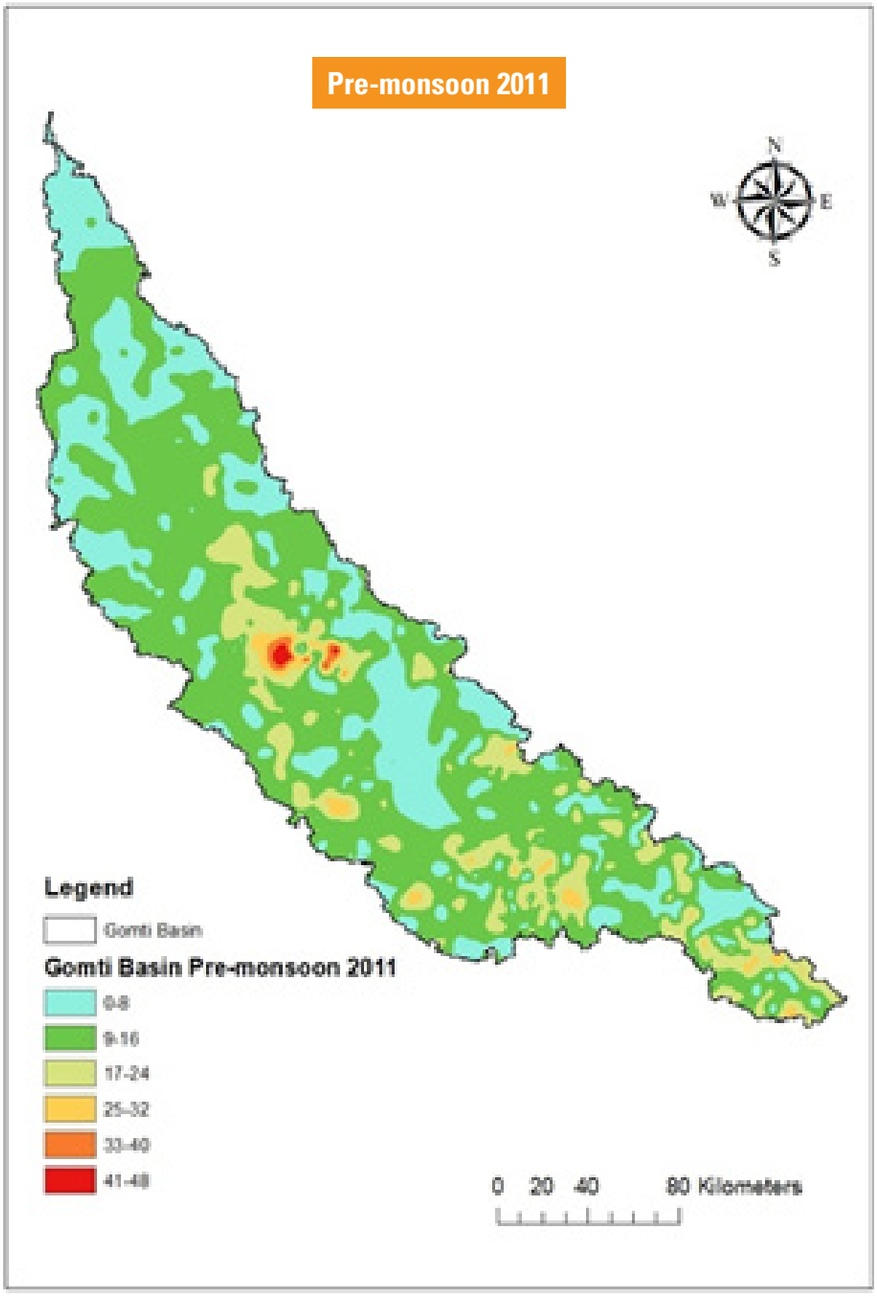
Pre-monsoon 2015

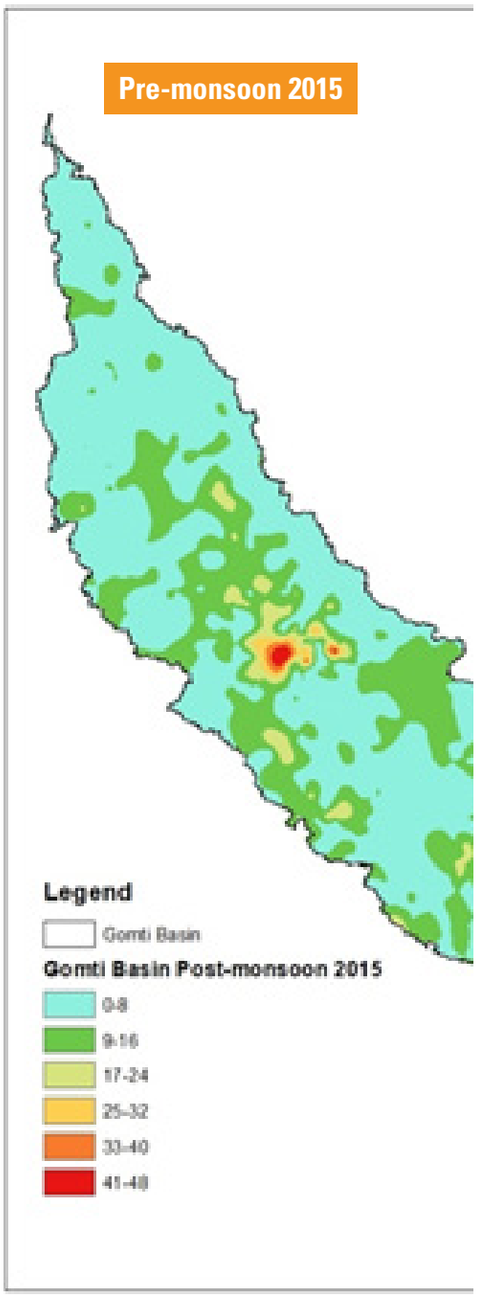



N
W
E
S
0 20 40 80 Kilometers


Pre-monsoon 2020
N
W
E
S
Legend
Gomti Basin
Gomti Basin Pre-monsoon 2020
0-8
9-16
17-24
25-32
33-40
41-48
0 20 40 80 Kilometers

GOMTI BASIN: GROUNDWATER ELEVATION CONTOUR





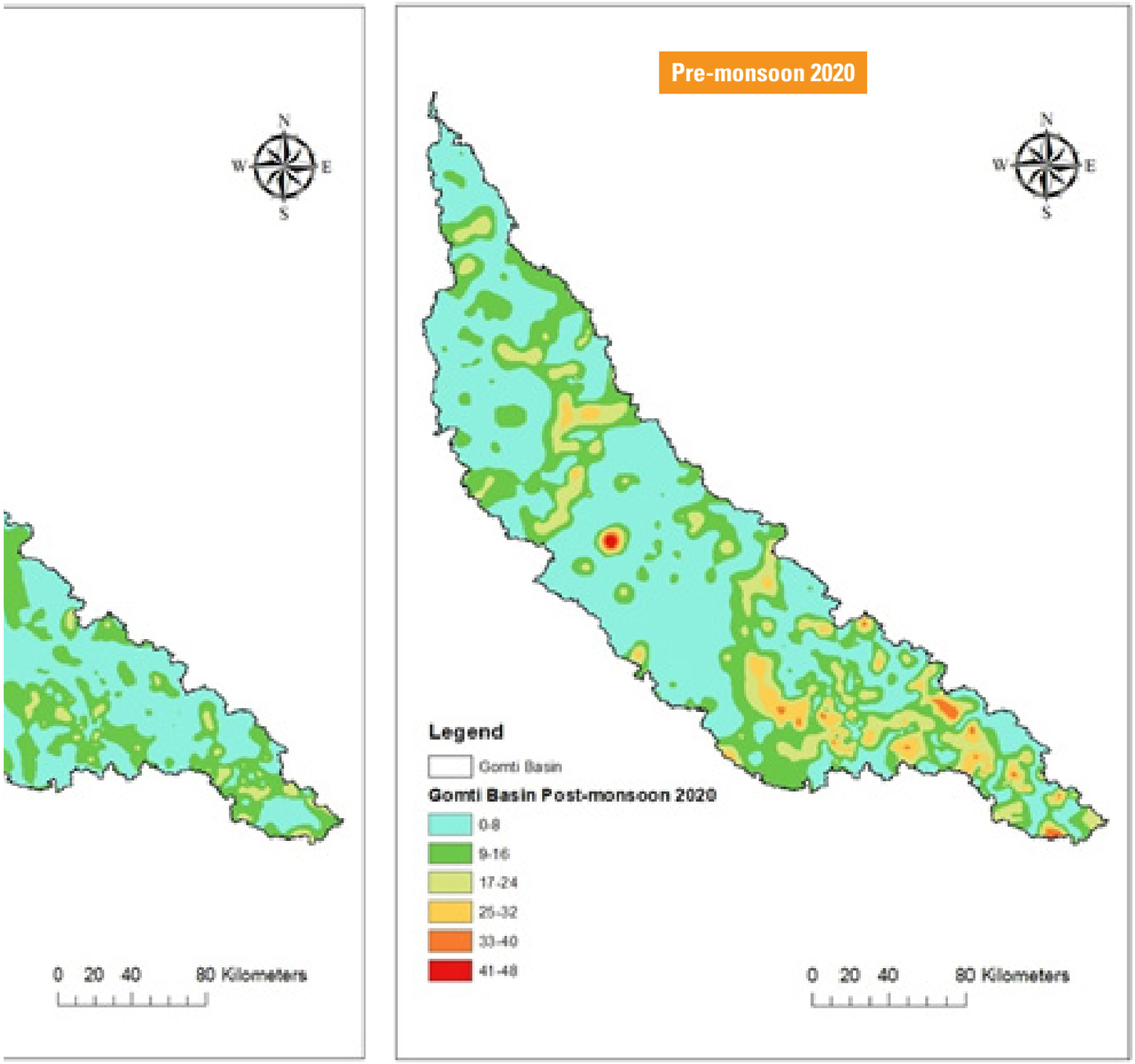
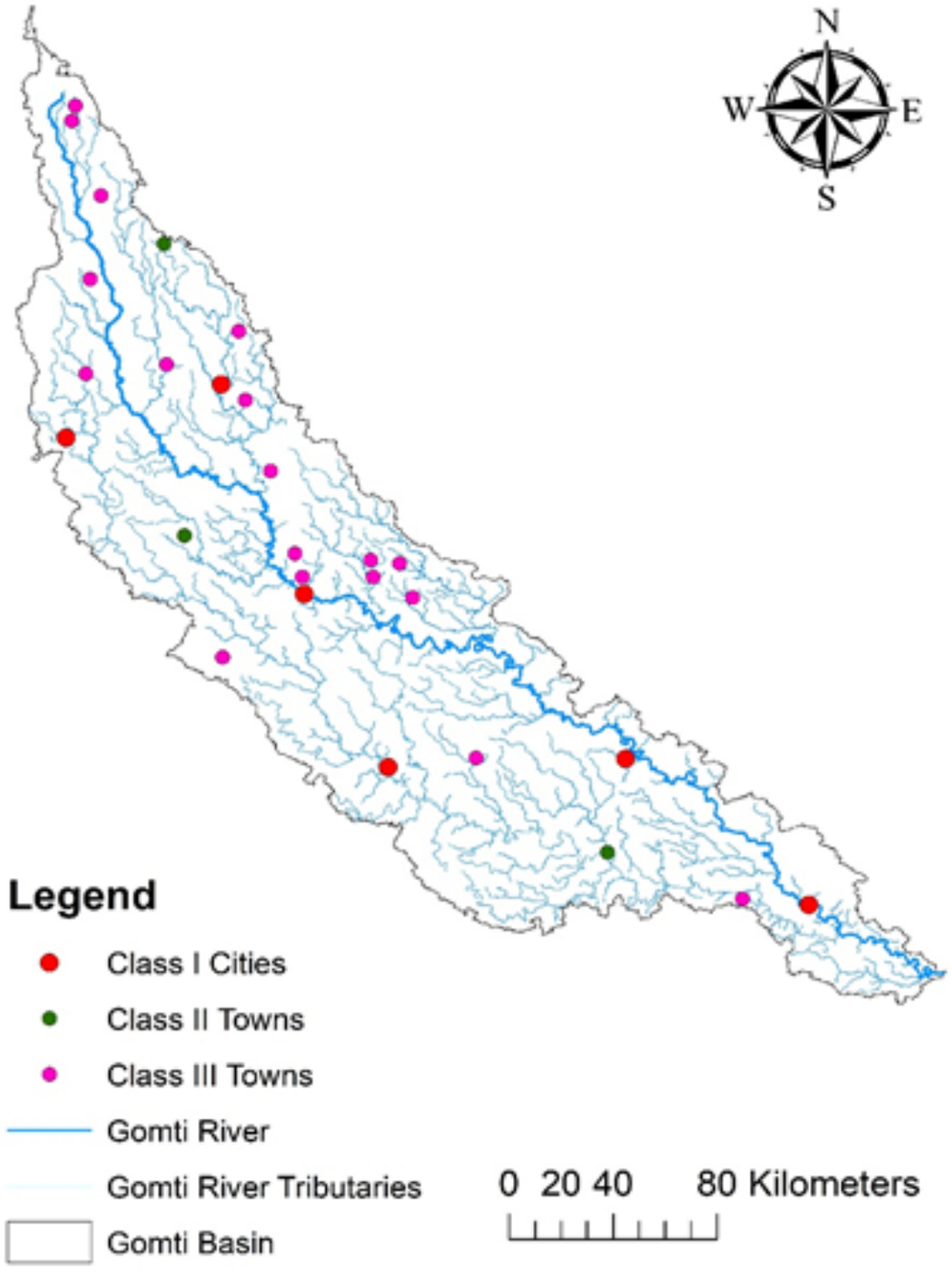


Figure: Representation of the groundwater level (in mbgl) in Gomti River Basin

GOMTI BASIN: CLASS I, II AND III CITIES



06 Class I cities, ■ 03 Class II and 18 Class III towns

Figure: Classwise representation of cities in Gomti River Basin, Source: Census, 2011

GOMTI BASIN: CWC SITE LOCATION

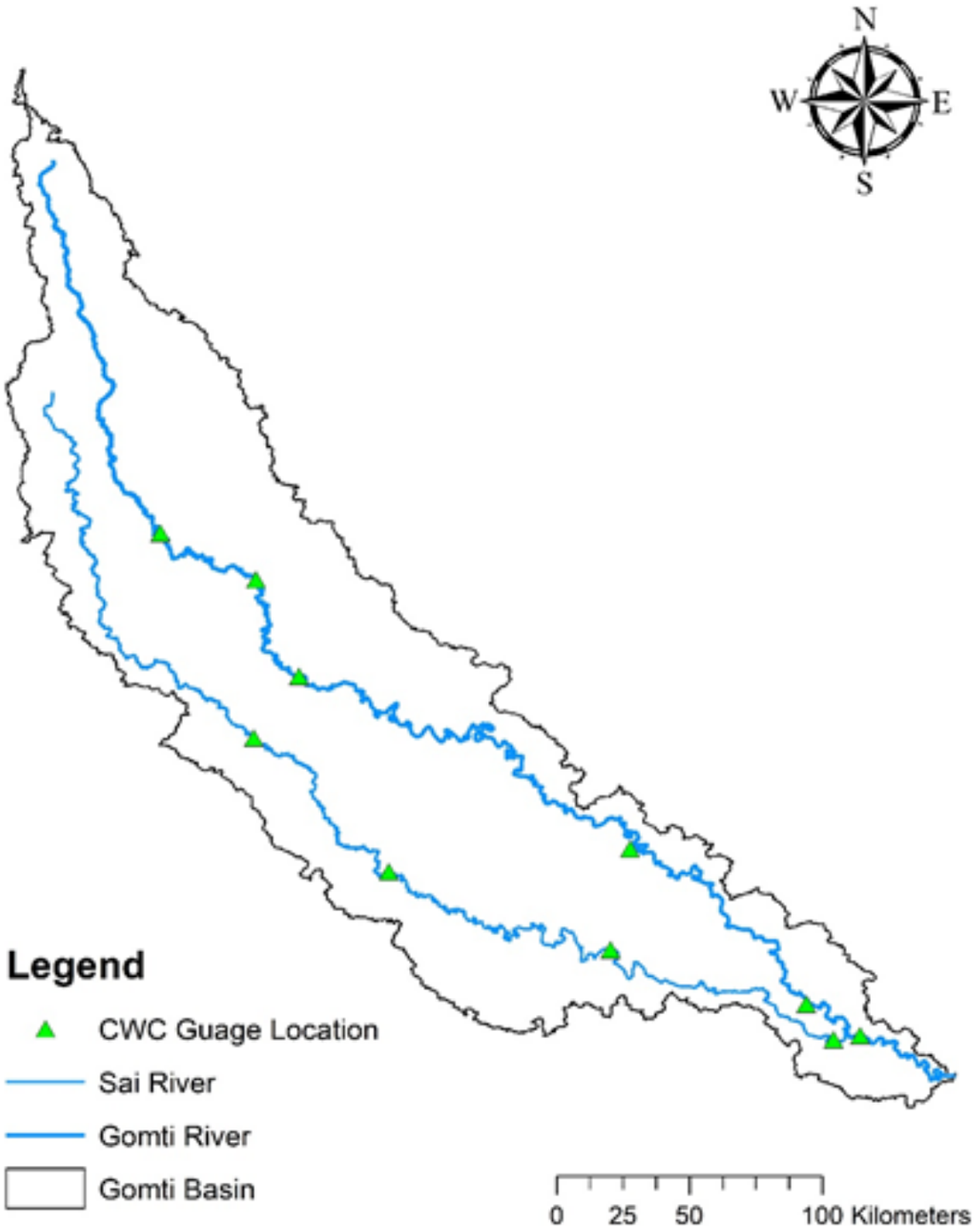
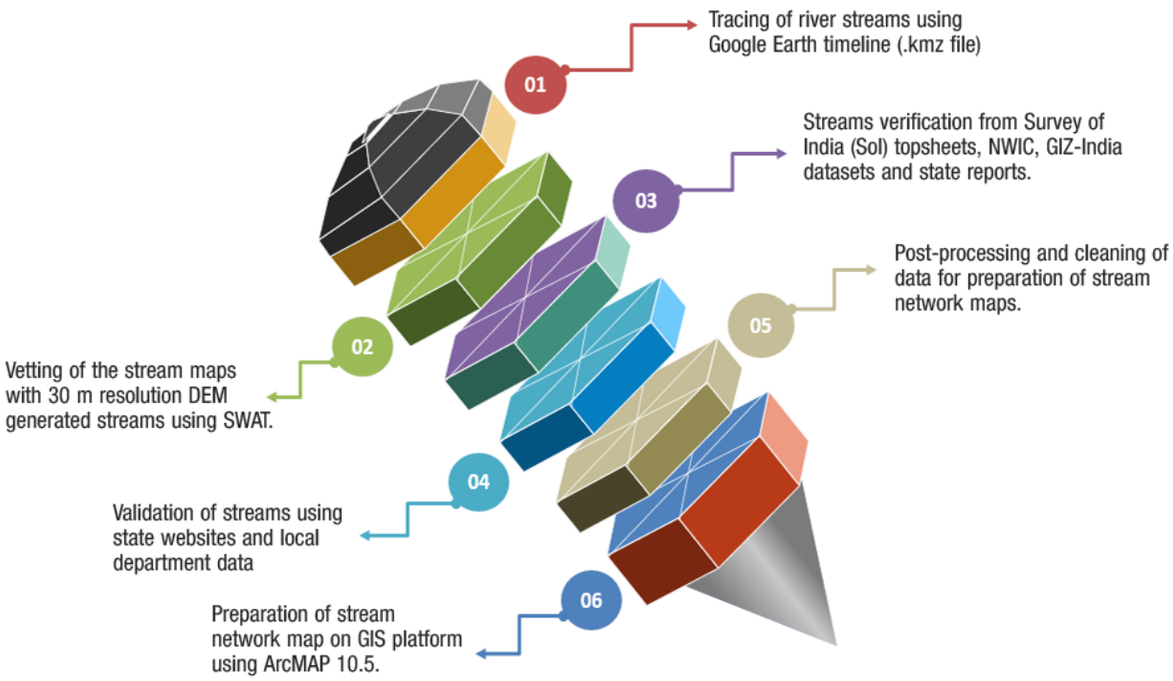


Figure: CWC Site Stations in Gomti River Basin

S No	Station Name	River	District	Measurement Type	Data Available
1	Bani	Sai	Lucknow	G	8/6/1984 onwards
2	Batpur Waghat	Gomti	Sitapur	G	6/15/1976 onwards
3	Jalalpur	Sai	Jaunpur	GD	7/1/1970 onwards
4	Jaunpur	Gomti	Jaunpur	GDQ	7/21/1970 onwards
5	Lucknow	Gomti	Lucknow	GDSQ	5/10/1969 onwards
6	Maighat	Gomti	Jaunpur	GDSQ	7/9/1959 onwards
7	Neemsar	Gomti	Sitapur	GDQ	7/21/1976 onwards
8	Pratapgarh	Sai	Pratapgarh	G	12/8/1984 onwards
9	Raibareli	Sai	Raebareli	GDQ	1/7/1970 onwards
10	Sultanpur	Gomti	Sultanpur	GDQ	9/17/1969 onwards

RIVER NETWORK PREPARATION METHODOLOGY

The method adopted, in brief, to obtain the river network are stepwise as follows:



- Streams less than 2.5 km and coming from local agriculture land is not covered.
- All streams covered which are coming from populated area (Urban or Rural) even if they are less than 1 km. (if it is visible).

Disclaimer: The accuracies of the maps generated by the above method are subject to the limitations of the data processing tools and software used for the particular geographical regions as represented in Google Earth images, and are subject to future refinement.

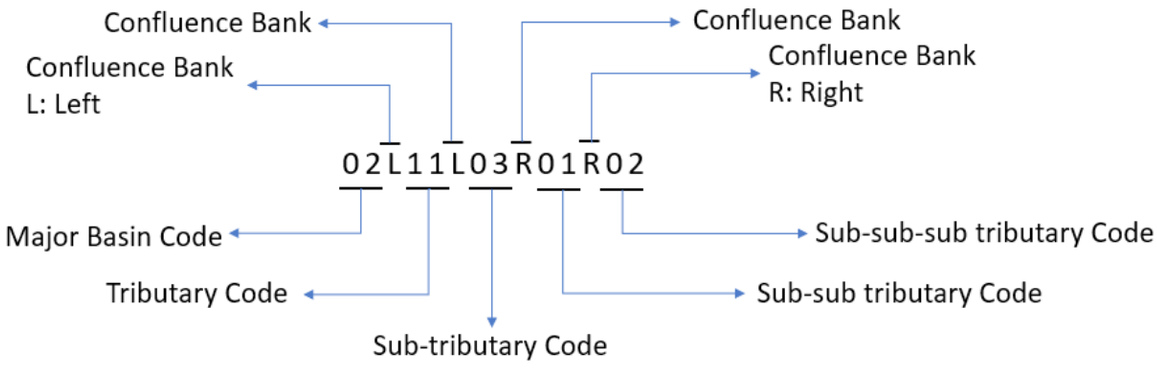
RIVER CODIFICATION SYSTEM

In the present Atlas alphanumeric characters are used for coding the river systems within natural and administrative boundaries. Each sub step in codification system is assigned a digit which reflects the length of the code up to that sub step. The coding has been done for the two different types of compartmentalizing river basins as stated below.

a) Codification system based on natural delineation
b) Codification system based on administrative delineation

The natural delineation approach is better suited to study and understand the basin area as a natural ecological unit while administrative delineation is good for determining specific interventions and fixing responsibilities in the implementation of any project relevant to rivers. Both approaches are important for their own reasons and, therefore, it was decided to develop the codification system for both natural as well as administrative delineations.

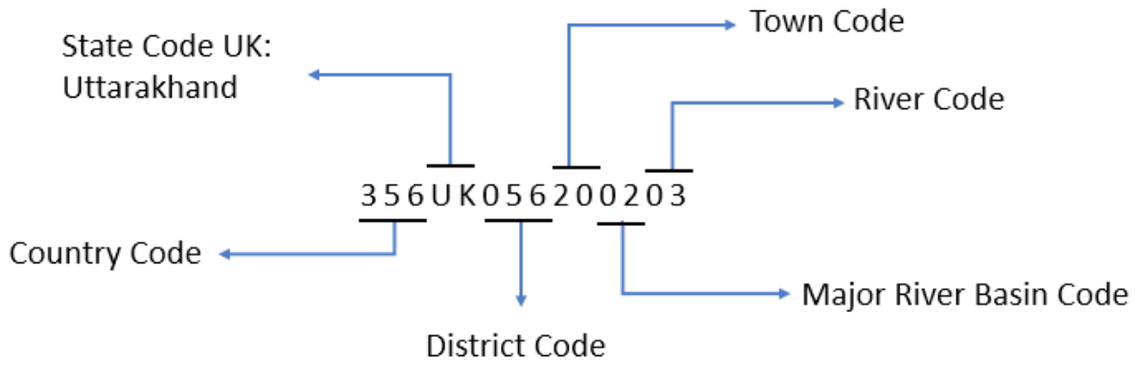
a) Codification system based on natural delineation: In the natural delineation approach, major basin codes given by CWC in River Basin Atlas of India, jointly published by CWC and NRSC, ISRO in October 2012, have been adopted here. These codes are accepted at regional level. In the second step, tributary code is given based on their confluence bank and their sequential number from the origin of the major river. R and L represents Right Bank and Left Bank, respectively, for the confluence bank in this code. For example, L11 in the code represents the 11th tributary (from the head of the major river) joining the major river at the left bank. In steps 3, 4, 5,



etc. the same coding procedure as in step 2 is followed for sub-tributaries joining the tributaries and so on. Thus, the code can be extended without any alteration until it reaches down to the lowest order river.

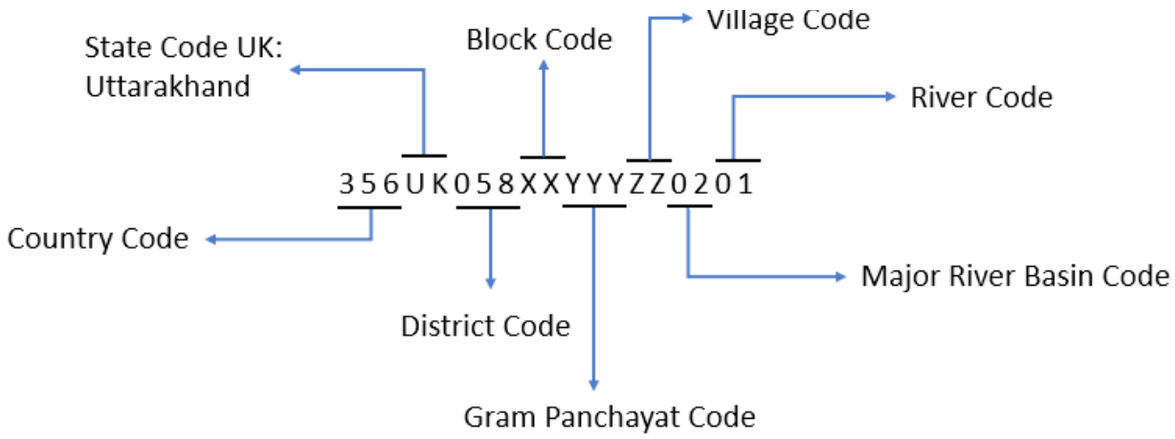
b) Codification system based on administrative delineation: In administrative delineation codes are generated separately for areas coming under urban and rural jurisdictions as further described.

Codification system based on administrative delineation –Urban: In administrative delineation-urban the first 3 digits of the code represent the country code adopted from ISO 3166-1. The next 5 digits give the state code and district code. State code is taken from transportation department and district code is adopted from Census codes. The next 2



digits represent the town, which adopted from the census town codes. In the next step, 2 digits are assigned for major river basins and the codes are adopted from River Basin Atlas of India given by CWC. The last 2 digits of the code represent the river based on higher to lower river order approach, and if there are more than one river of the same order then code is allotted in alphabetical order.

Codification system based on administrative delineation-Rural: In administrative delineation-rural the first 3 digits of the code represent the country code adopted from ISO 3166-1. The next 5 digits give the state code and district code State code is taken from transportation department and district code is adopted from Census codes. Block, Gram Panchayat and Village codes are further generated based on district codes. In the next step, 2 digits are assigned for major river basin as per the River Basin Atlas of India given by CWC. The last 2 digits of the code represent the river code based on higher to lower river order approach, and if there be more than one river of same order then the code is allotted in alphabetical order.



GOMTI BASIN AND ITS RIVER NETWORK

Gomti River UID Code:
Basin Area: 32674.42 Sq. Km.
Major Rivers: Sai, Sarayan, Kalyani, Kathna, Behta, Reth, Pili, Nand
Number of rivers: 298
Total Length of rivers: 8476.28 Km

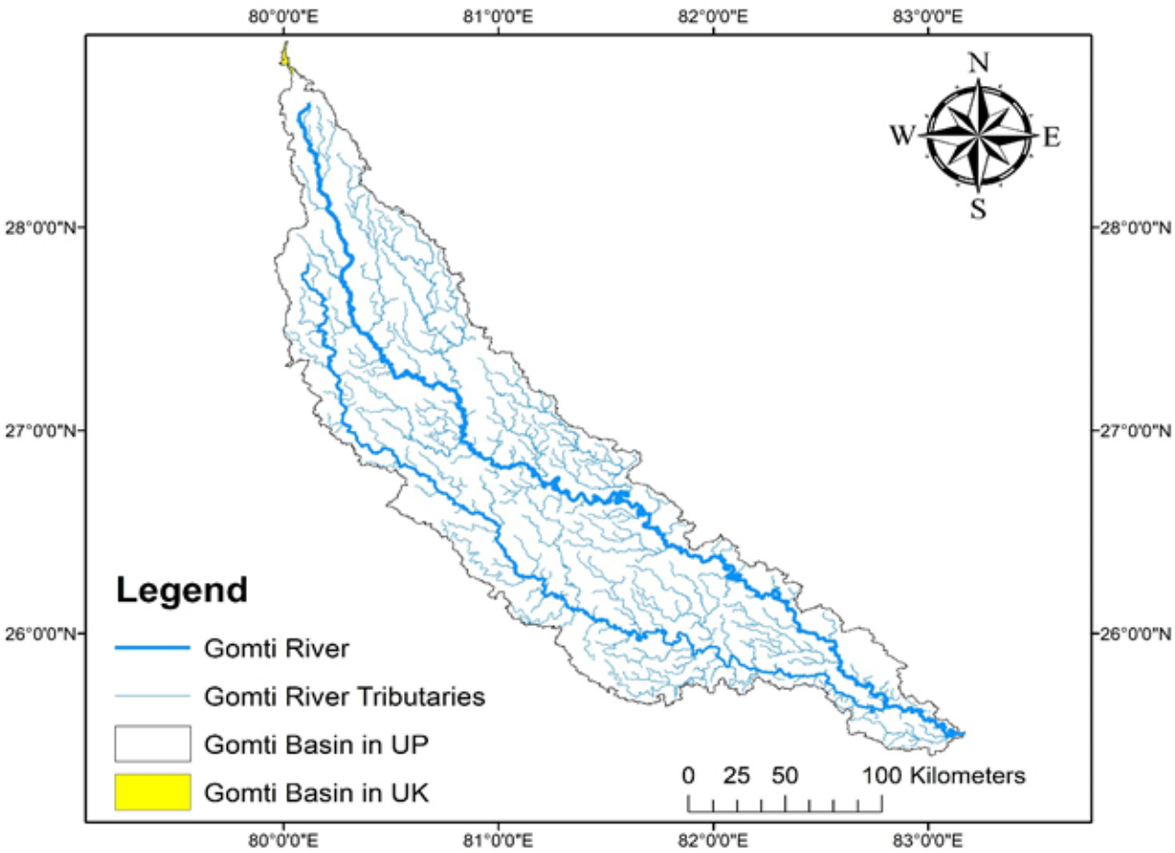
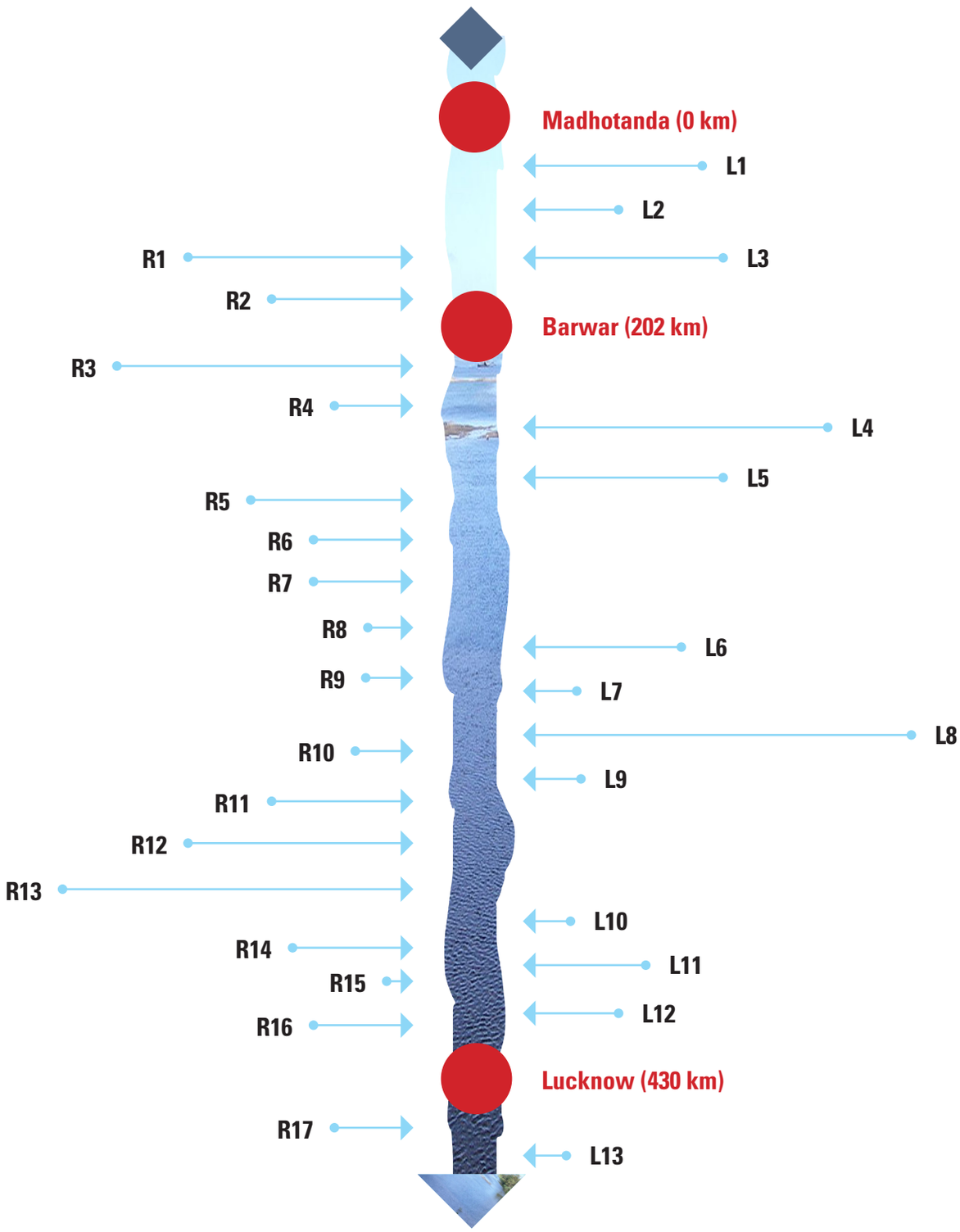
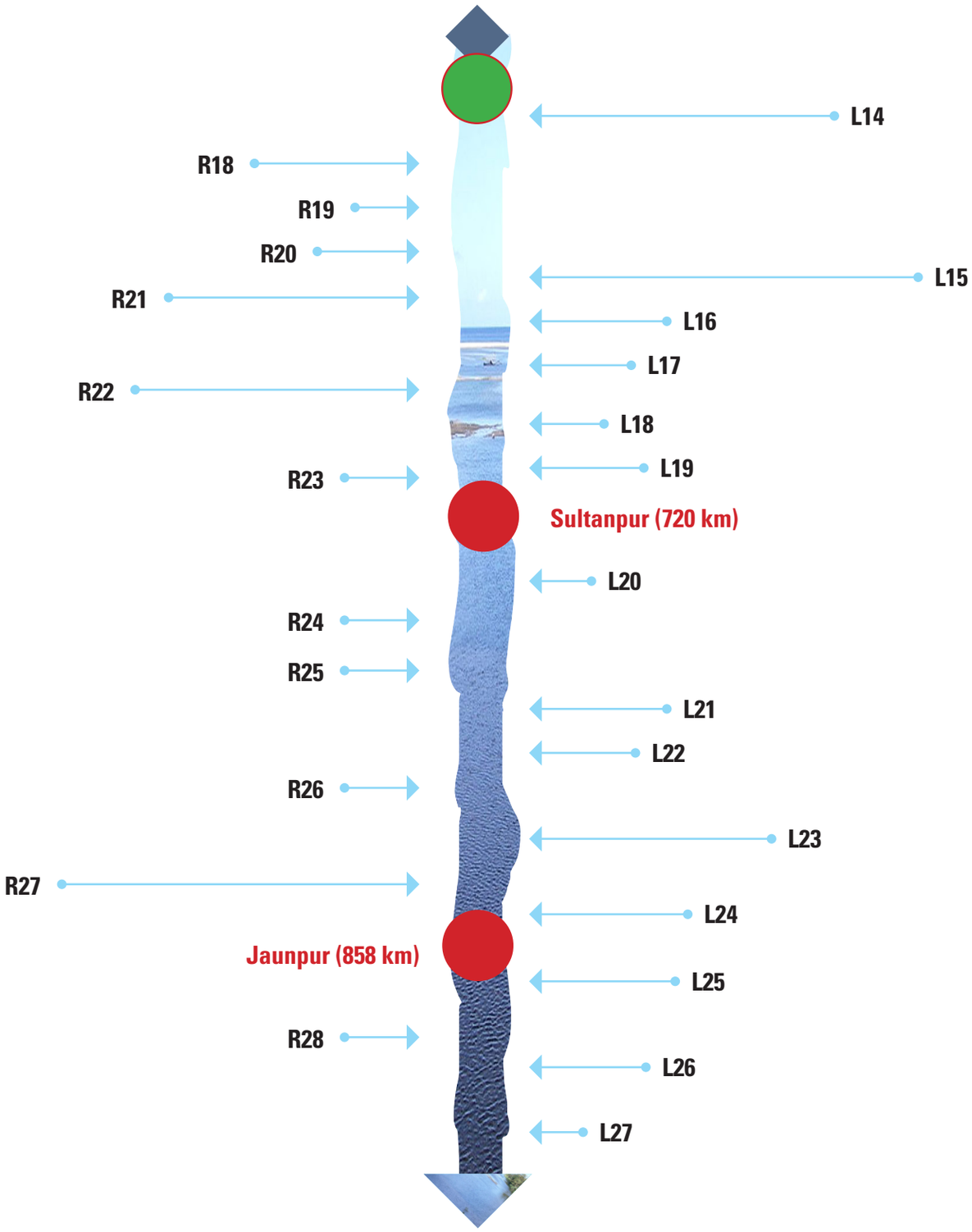


Figure: Gomti basin river network.

GOMTI RIVER MAINSTEM FLOW DIAGRAM




L14
R18
R19
R20
L15
R21
L16
L17
R22
L18
L19
R23
Sultanpur (720 km)
L20
R24
R25
L21
L22
R26
L23
R27
L24
Jaunpur (858 km)
L25
R28
L26
L27

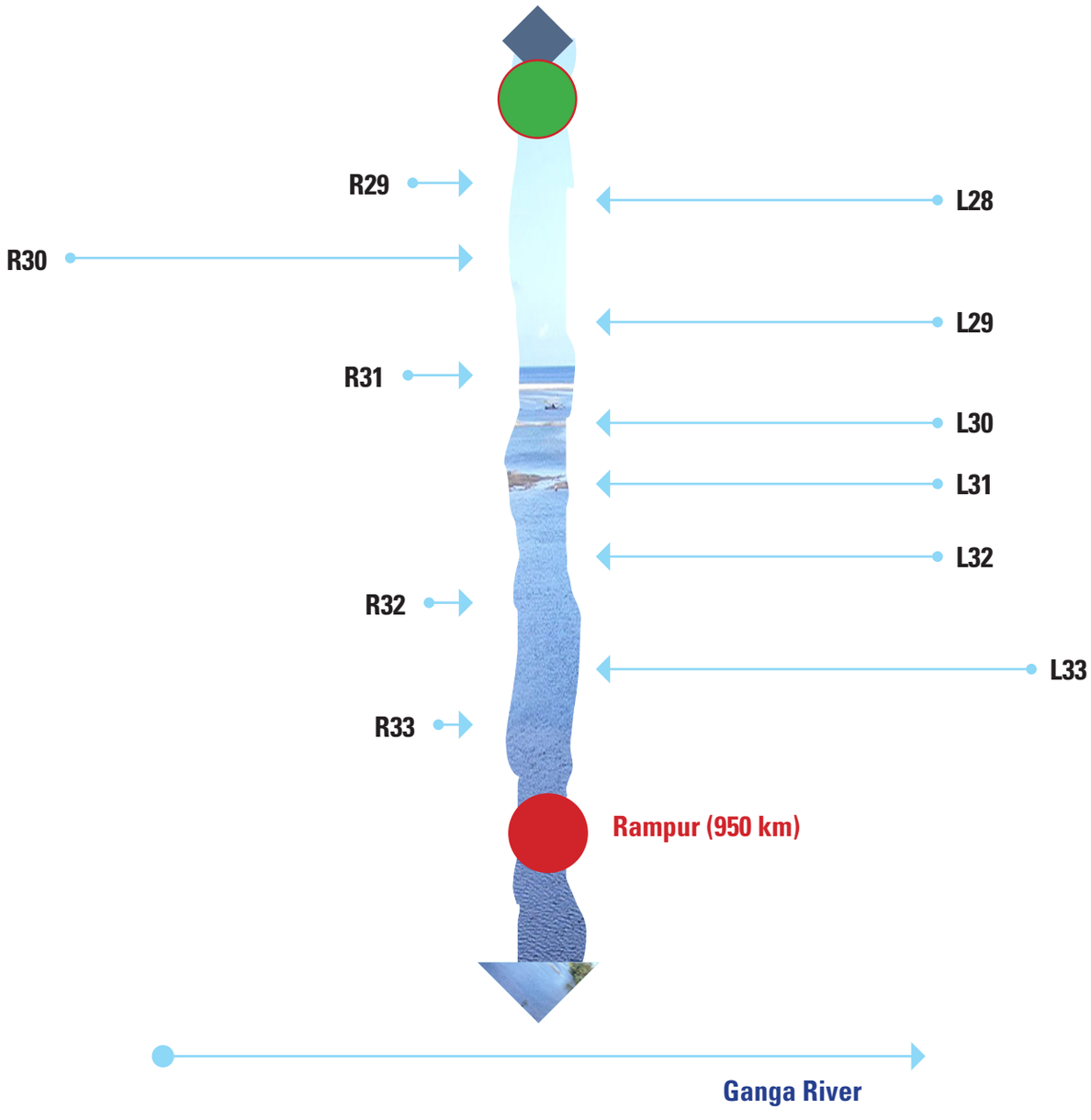


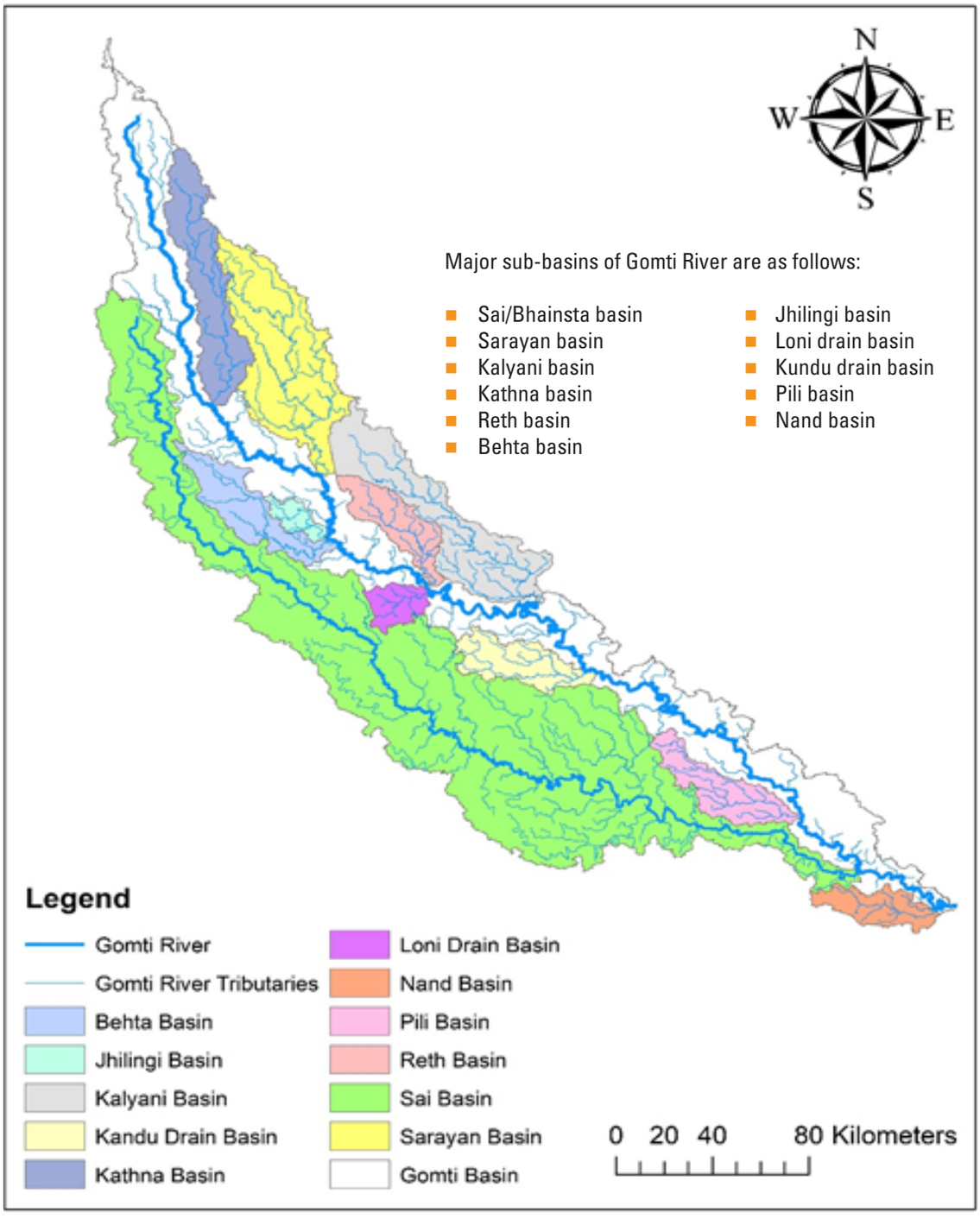
Figure: Flow diagram of Gomti River

GOMTI RIVER MAINSTEM NETWORK						
S.No.	River Name	Confluence Bank	River Length (Km)	Confluence Co-ordinate		Distance from origin (km)
				Lat	Long	
1	Gachai River	L1	14.9	28.50	80.09	17.5
2	Gohai Drain	L2	12.5	28.41	80.13	30.2
3	Joknai River	L3	51.3	28.21	80.17	77.3
4	Bhainsi River	R1	44.0	28.09	80.20	111.0
5	Chhuha Drain	R2	46.5	27.79	80.27	190.0
6	Chhuha Drain	R3	70.7	27.74	80.27	202.0
7	Andi Drain	R4	16.9	27.52	80.33	253.0
8	Kathna River	L4	191.0	27.47	80.39	266.0
9	Chitwa Drain	L5	31.4	27.40	80.45	282.0
10	Gharera Drain	R5	29.9	27.36	80.45	291.0
11	Kharja Drain	R6	22.7	27.34	80.48	299.0
12	Kherwa Drain	R7	10.5	27.29	80.51	306.0
13	Chitauri River	R8	4.7	27.28	80.51	309.0
14	Stream 16	L6	28.0	27.27	80.62	330.0
15	Stream 15	R9	4.7	27.22	80.69	347.0
16	Stream 14	L7	9.7	27.24	80.72	351.0
17	Sarayan River	L8	255.0	27.20	80.79	363.0
18	Hawal River	R10	8.5	27.13	80.80	378.0
19	Nakah River	L9	11.0	27.05	80.84	394.0
20	Akhddi River/ Akraddi Drain	R11	33.5	27.02	80.82	400.0
21	Jhilingi River/ Drain	R12	58.2	26.96	80.82	413.0
22	Behta River/Beta Drain/Ramnagr Minor	R13	165.0	26.94	80.86	418.0

GOMTI RIVER MAINSTEM NETWORK						
S.No.	River Name	Confluence Bank	River Length (Km)	Confluence Co-ordinate		Distance from origin (km)
				Lat	Long	
23	Tikwa Drain	L10	8.4	26.92	80.87	424.0
24	Nagarian Drain	R14	20.2	26.89	80.90	430.0
25	Stream 17	R15	3.3	26.89	80.90	431.0
26	Kukrail River	L11	21.8	26.86	80.97	440.0
27	Bhujniya Drain	R16	14.0	26.82	81.01	449.0
28	Imli Bandhan Drain	L12	15.7	26.83	81.06	457.0
29	Drain	R17	11.5	26.84	81.11	462.0
30	Stream 18	L13	6.8	26.83	81.13	464.0
31	Reth River	L14	139.7	26.77	81.19	479.0
32	Loni Drain	R18	26.8	26.73	81.20	484.0
33	Loni Drain	R19	18.4	26.70	81.30	511.0
34	Stream 13	R20	23.2	26.64	81.43	534.0
35	Kalyani River	L15	220.4	26.69	81.60	568.0
36	Ghagra/Arahi River/Raksaha Drain	R21	38.8	26.58	81.65	608.0
37	Betwa River	L16	30.7	26.59	81.70	614.0
38	Betwa Nala	L17	27.0	26.49	81.76	638.0
39	Kandu Drain	R22	64.6	26.42	81.83	652.0
40	Bisawan Drain	L18	13.6	26.38	82.01	681.0
41	Bhatpurwa Drain	L19	15.3	26.38	82.03	684.0
42	Babaira /Gobaria Drain	R23	25.7	26.28	82.06	710.0
43	Jamoria Drain	L20	6.7	26.29	82.11	720.0
44	Kanria Nala	R24	4.0	26.26	82.11	726.0

GOMTI RIVER MAINSTEM NETWORK						
S.No.	River Name	Confluence Bank	River Length (Km)	Confluence Co-ordinate		Distance from origin (km)
				Lat	Long	
45	Stream 12	R25	8.0	26.19	82.20	743.0
46	Stream 11	L21	19.2	26.22	82.29	756.0
47	Kadipur Nala	L22	10.6	26.16	82.35	772.0
48	Pili Nadi	R26	35.2	26.02	82.39	793.0
49	Sewain River	L23	31.1	25.96	82.54	811.0
50	Pili River	R27	101.0	25.85	82.59	832.0
51	Stream 10	L24	16.2	25.79	82.65	845.0
52	Stream 9	L25	13.6	25.75	82.72	858.0
53	Gathia Drain	R28	5.5	25.69	82.75	868.0
54	Sewai Nadi	L26	13.4	25.70	82.78	872.0
55	Stream 8	L27	5.5	25.70	82.79	873.0
56	Stream 7	R29	5.0	25.69	82.80	876.0
57	Balohi River	L28	11.2	25.68	82.81	877.0
58	Sai River/ Bhainsta River	R30	761.0	25.65	82.80	882.0
59	Stream 6	L29	3.4	25.64	82.87	890.0
60	Stream 5	R31	7.8	25.62	82.88	892.0
61	Tain Drain	L30	13.0	25.62	82.95	903.0
62	Stream 4	L31	5.5	25.62	82.97	905.0
63	Stream 3	L32	2.9	25.58	83.00	914.0
64	Stream 2	R32	4.3	25.54	83.04	922.0
65	Stream 1	L33	2.0	25.55	83.07	926.0
66	Nand River	R33	71.4	25.49	25.49	935.0

GOMTI BASIN: MAJOR SUB-BASINS



SAI/BHAINSTA BASINS

Sai/Bhainsta River UID Code: 02L01R12
Basin Area: 12833.42 Sq. Km.
Number of rivers- 113
Total length of river- 3251.1 Km

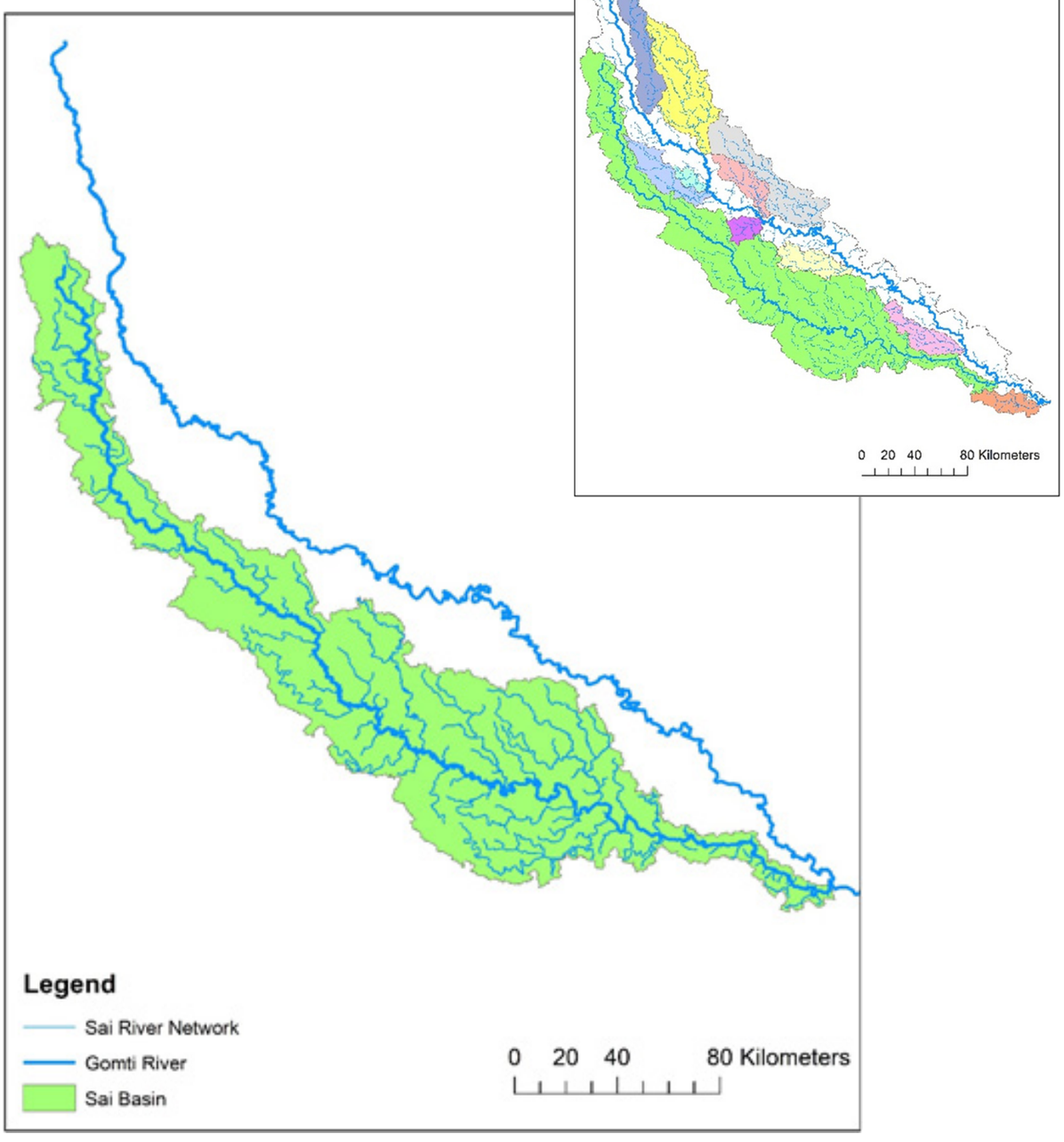
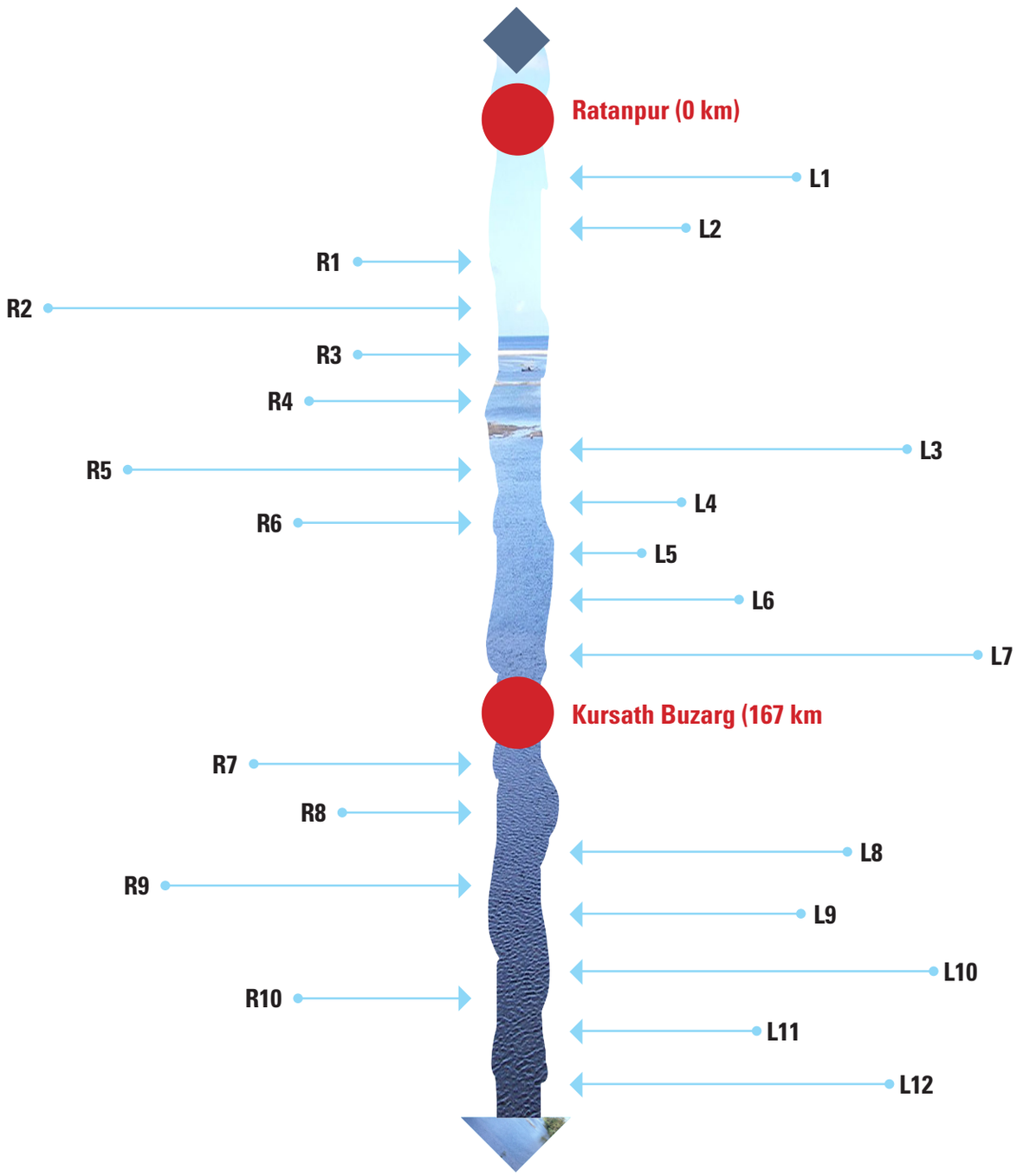
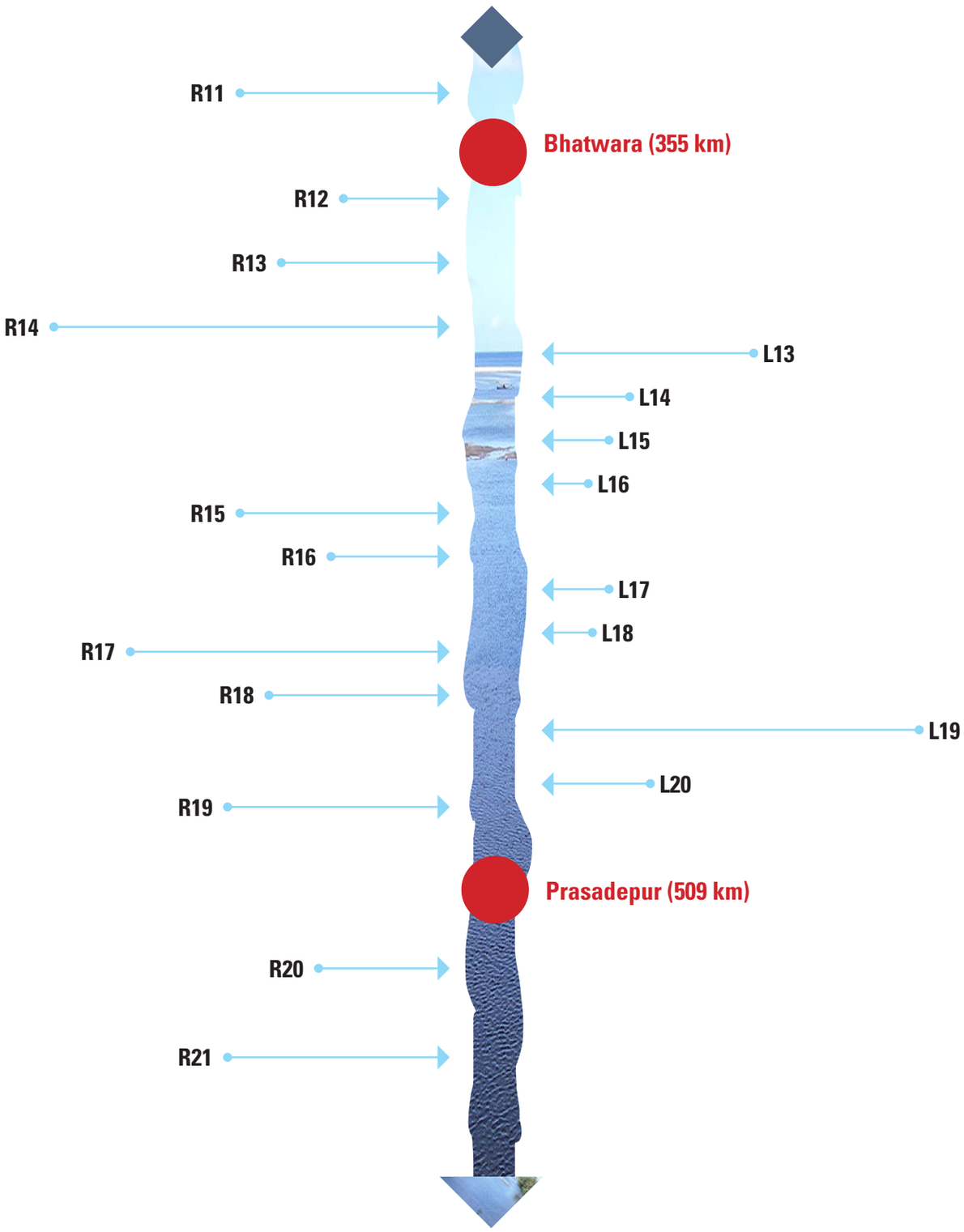
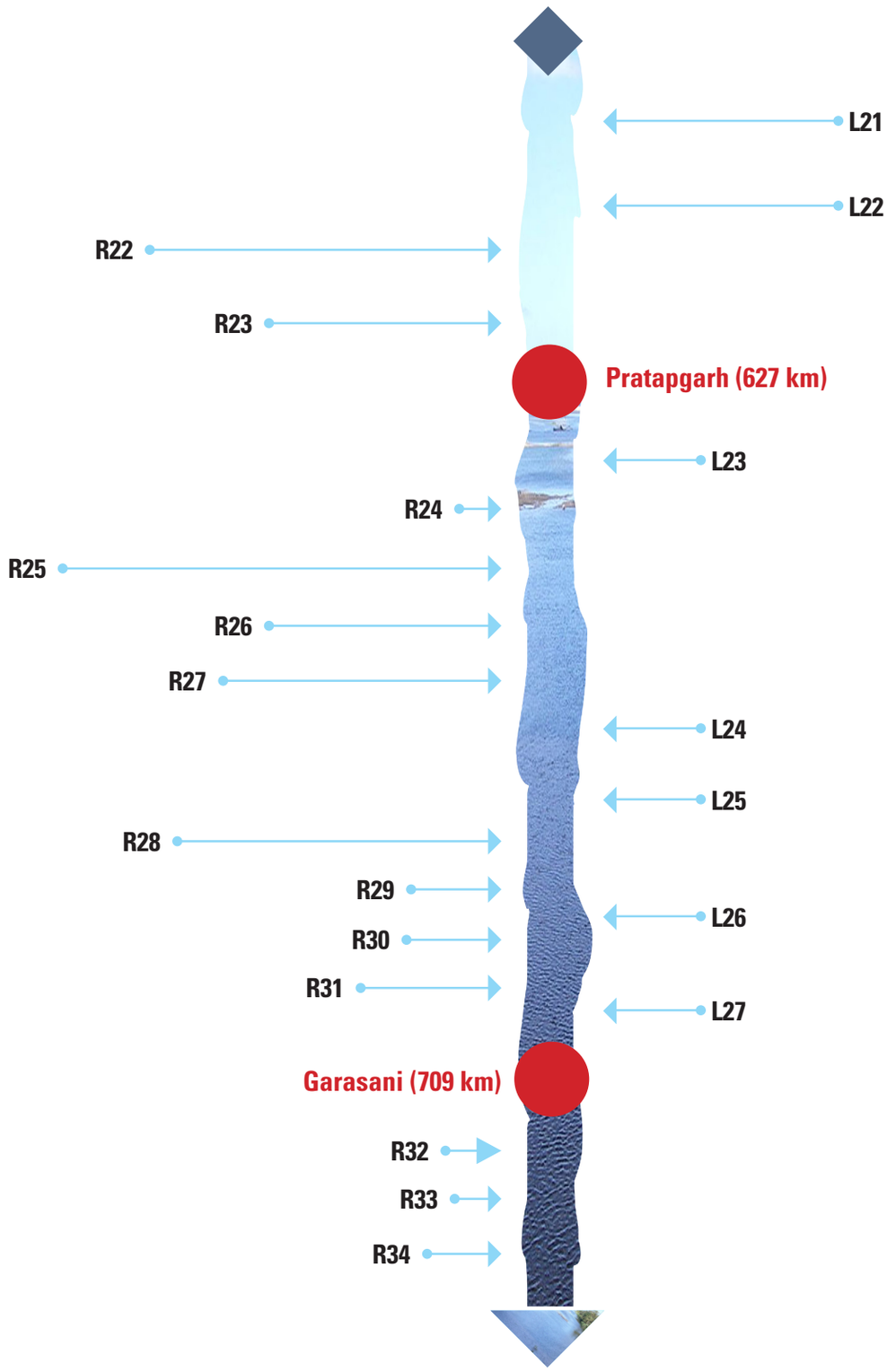


Figure: Sai River network

SAI/BHAINSTA RIVER MAINSTEM FLOW DIAGRAM




R11
Bhatwara (355 km)
R12
R13
R14
L13
L14
L15
L16
R15
R16
L17
L18
R17
R18
L19
L20
R19
Prasadepur (509 km)
R20
R21



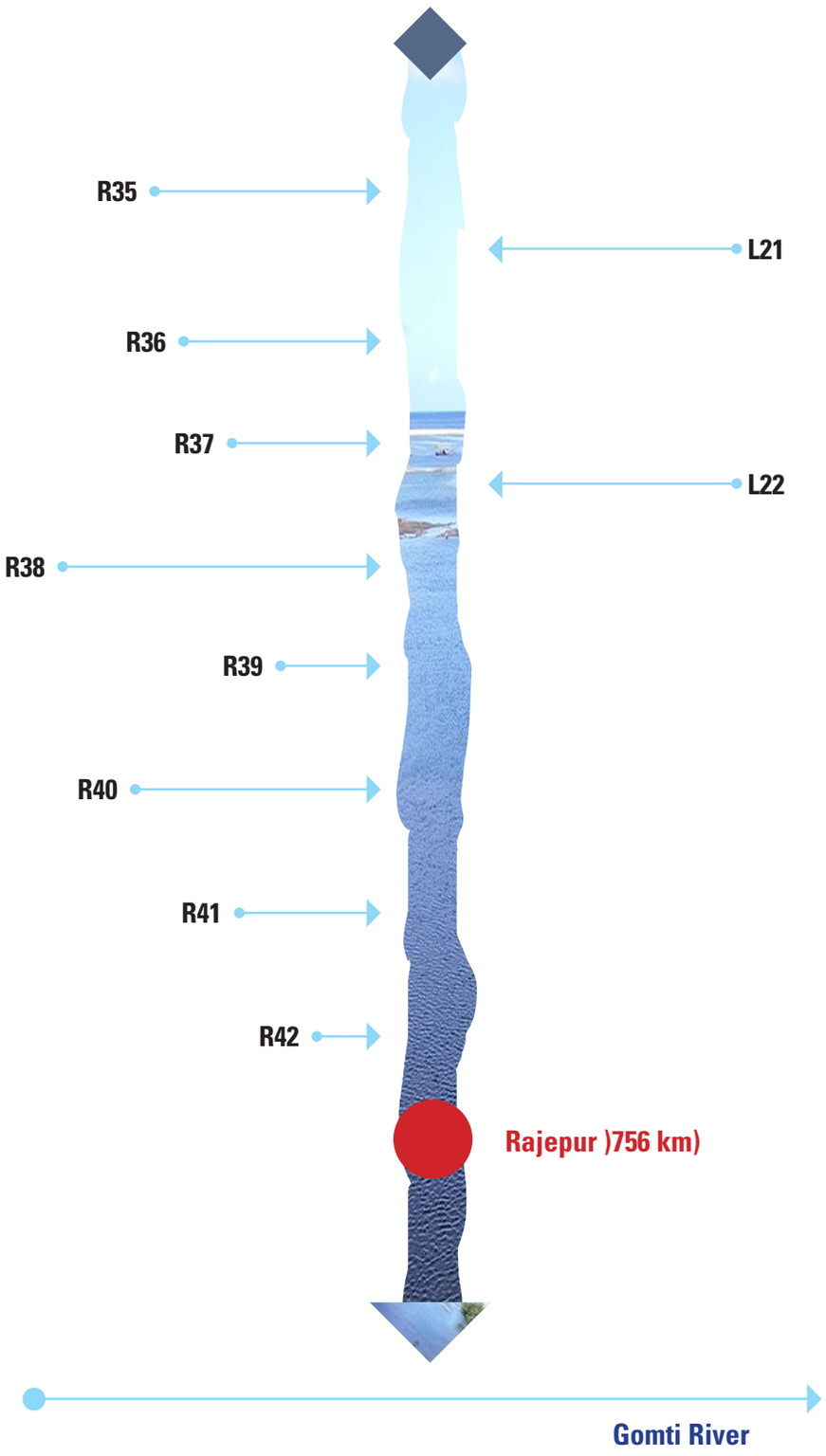


Figure: Flow Diagram of Sai River

SAI/BHAINSTA RIVER MAINSTEM NETWORK						
S.No.	River Name	Confluence Bank	River Length (Km)	Confluence Co-ordinate		Distance from origin (km)
				Lat	Long	
1	Rabha Drain	L2	10.43	27.64	80.18	32.1
2	Bijgawan Nala	R1	9.93	27.62	80.18	36.7
3	Saraunia Drain	R2	45.49	27.52	80.16	62.2
4	Sewa Nala	R3	8.7	27.49	80.16	67.3
5	Pokhri Drain	R4	11.71	27.41	80.20	94.2
6	Japra Drain	L3	23.4	27.40	80.22	98.3
7	Chhoha /Behta Gokul Drain	R5	47.2	27.32	80.21	124
8	Stream 38	L4	4.85	27.27	80.25	136
9	Mahri Drain	L5	3.75	27.18	80.27	155
10	Stream 37	R6	13.6	27.15	80.26	160
11	Shamaspur Nala	L6	17.5	27.15	80.27	161
12	Kachhauna Drain	L7	69.8	27.12	80.29	167
13	Akhreria Drain	R7	15.85	27.04	80.27	180
14	Stream 36	R8	8.73	27.03	80.29	183
15	Lubar Drain/ Rithwan Drain	L8	31.7	26.91	80.47	230
16	Riswan Drain	R9	23.7	26.84	80.54	248
17	Tainra Nala	L9	18.9	26.81	80.61	264
18	Nagwa Drain	L10	56.2	26.66	80.79	308
19	Sarai Joga Nala	R10	7.65	26.62	80.83	319
20	Barer Drain	L11	11.55	26.60	80.89	331
21	Bakh Drain	L12	55.77	26.53	81.01	355
22	Kusalia Drain	R11	34.03	26.50	80.99	359
23	Kharui Nala	R12	3.85	26.46	80.99	366
24	Sarhi Drain	R13	18.6	26.32	81.07	397
25	Basaha Drain	R14	85.32			407

SAI/BHAINSTA RIVER MAINSTEM NETWORK						
S.No.	River Name	Confluence Bank	River Length (Km)	Confluence Co-ordinate		Distance from origin (km)
				Lat	Long	
26	Kalwanaya Drain	L13	36.85	26.28	81.17	418
27	Stream 35	L14	10.3	26.27	81.21	426
28	Didauli Drain	L15	8.72	26.26	81.22	427
29	Stream 41	L16	4.42	26.23	81.22	432
30	Sonh Drain	R15	19.2	26.20	81.20	437
31	Bala Khara Minor	R16	16.4	26.19	81.21	441
32	Stream 33	L17	4.37	26.19	81.29	456
33	Stream 32	L18	3.72	26.18	81.30	457
34	Isaur Drain	R17	73.76	26.15	81.31	463
35	Chop Drain	R18	21	26.11	81.35	472
36	Naiya River/ Naiya/ Maharajgang/ Baraila Drain	L19	115	26.12	81.38	477
37	Drain	L20	9.83	26.08	81.44	490
38	Rahaniya Tal	R19	35.9	26.06	81.45	495
39	Mohanganj/ Dubhanpur Drain	R20	10.5	26.03	81.52	509
40	Stream 26	R21	27.1	25.99	81.61	527
41	Naiya Drain	L21	84.8	25.99	81.65	538
42	Naiya Nala	L22	39.5	26.02	81.77	572
43	Loni River	R22	50.9	25.93	81.90	609
44	Sakarni nadi,Narayanpur Nala	R23	22.8	25.90	81.92	615
45	Chamrauha River/Naudiha River/Bhiwa Drain	L23	93.3	25.94	81.98	627
46	Stream 24	R24	3.4	25.89	82.01	636

SAI/BHAINSTA RIVER MAINSTEM NETWORK						
S.No.	River Name	Confluence Bank	River Length (Km)	Confluence Co-ordinate		Distance from origin (km)
				Lat	Long	
47	Bakulahi River	R25	138	25.88	82.02	637
48	Stream 22	R26	20.9	25.84	82.06	644
49	Stream 21	R27	23.2	25.84	82.07	645
50	Paraya Drain	L24	40.7	25.89	82.08	652
51	Patti Drain	L25	36.7	25.82	82.21	669
52	Stream 18	R28	30.9	25.82	82.22	670
53	Stream 17	R29	9.87	25.81	82.29	677
54	Stream 16	L26	9.58	25.82	82.30	680
55	Stream 15	R30	7.7	25.79	82.41	697
56	Stream 14	R31	10.4	25.80	82.50	707
57	Stream 13	L27	4.15	25.80	82.52	709
58	Stream 12	R32	5.7	25.75	82.54	718
59	Stream 11	R33	3.8	25.73	82.56	722
60	Stream 10	R34	4.15	25.71	82.57	724
61	Stream 9	R35	7.59	25.71	82.59	726
62	Stream 8	L28	2.66	25.71	82.60	727
63	Stream 7	R36	5.32	25.69	82.63	730
64	Stream 6	R37	4.24	25.67	82.65	735
65	Stream 5	L29	3.36	25.66	82.66	737
66	Jogirpur Drain	R38	16.8	25.65	82.67	738
67	Sulkhapur Drain	R39	3.44	25.64	82.71	743
68	Stream 3	R40	14.5	25.61	82.73	750
69	Stream 2	R41	6.87	25.62	82.74	751
70	Stream 1	R42	2.77	25.62	82.79	756

KALYANI BASIN

Kalyani River UID Code:
Basin Area: 2049.49 Sq. Km.
Number of rivers- 24
River network- 610.4 Km

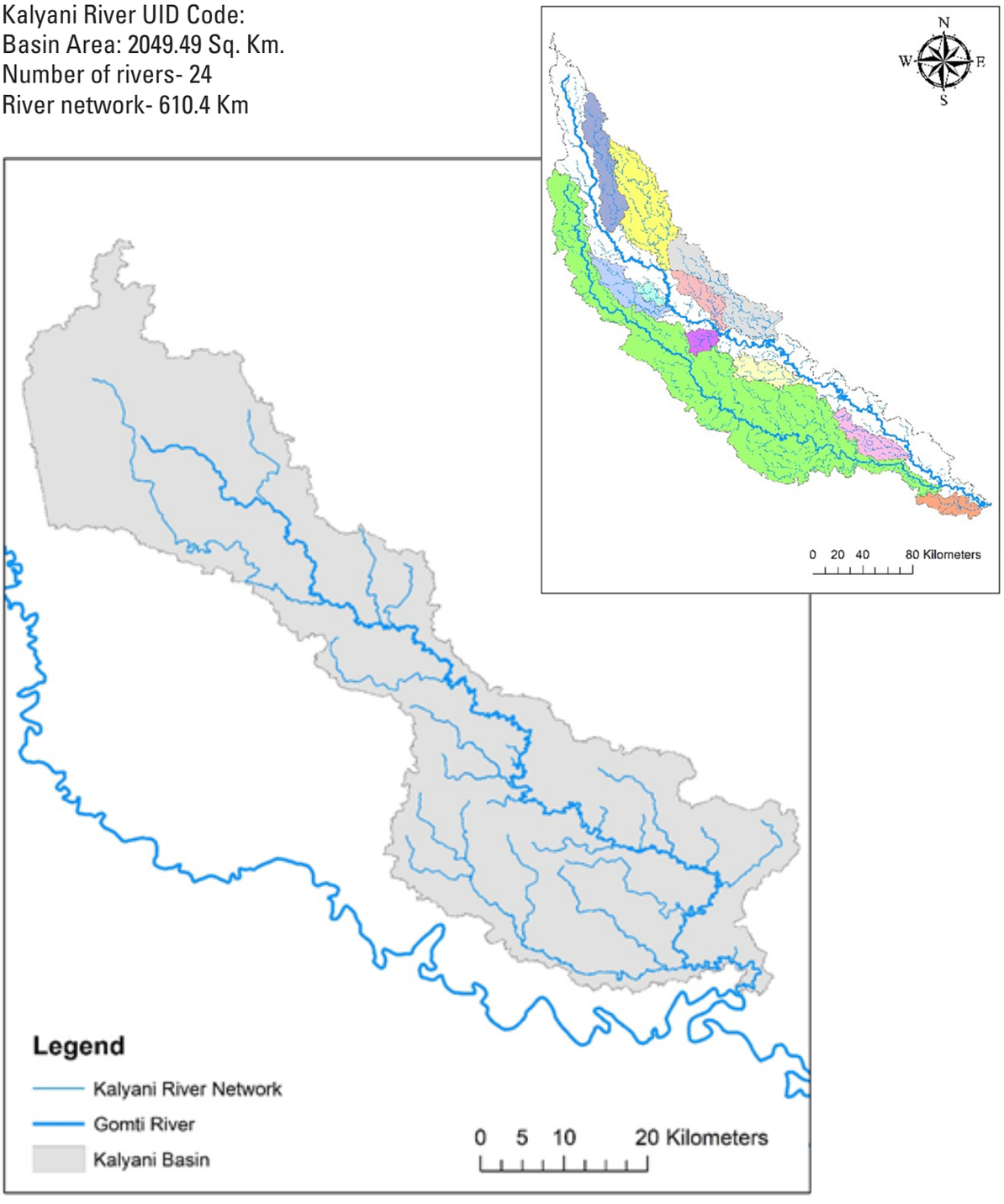


Figure: Kalyani River Network

KALYANI RIVER MAINSTEM FLOW DIAGRAM

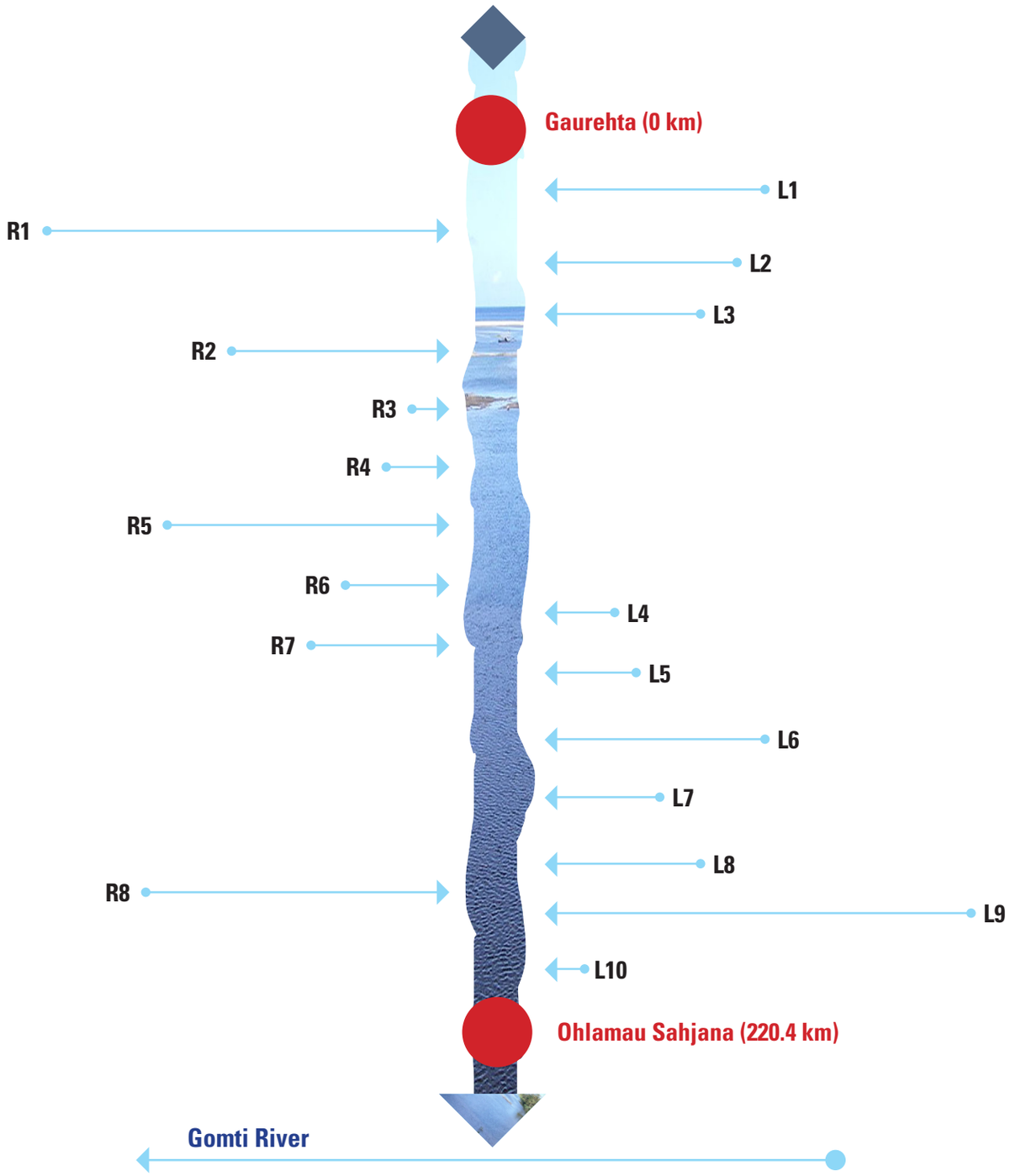


Figure: Flow Diagram of Kalyani River

SAI/BHAINSTA RIVER MAINSTEM NETWORK						
S.No.	River Name	Confluence Bank	River Length (Km)	Confluence Co-ordinate		Distance from origin (km)
				Lat	Long	
1	Stream 12	L1	15.5	27.22	81.09	10.5
2	Drain2	R1	62.6	27.12	81.15	32.9
3	Jhawa Drain	L2	15.18	27.09	81.21	46
4	Stream 10	L3	11.5	27.09	81.22	48.9
5	Stream 9	R2	22.3	27.03	81.28	63.3
6	Stream 8	R3	2.44	26.95	81.36	102
7	Stream 7	R4	2.45	26.94	81.36	104
8	Gari River	R5	23.2	26.92	81.36	112
9	Stream 6	R6	7.22	26.90	81.36	117
10	Stream 5	L4	4.15	26.87	81.45	137
11	Drain 1	R7	13.7	26.85	81.46	141
12	Stream 4	L5	4.99	26.85	81.49	146
13	Ambar Drain	L6	19	26.85	81.52	152
14	Stream 2	L7	8.7	26.82	81.57	161
15	Bhoria Drain	L8	15.3	26.81	81.58	165
16	Drain	R8	25	26.78	81.54	177
17	Rari Drain	R9	60.06	26.72	81.54	186
18	Stream 1	L9	2.46	26.73	81.59	197

SARAYAN BASIN

Sarayan River UID Code:
Basin Area: 2502.11 Sq. Km.
Number of rivers- 15
River network- 765.18 Km

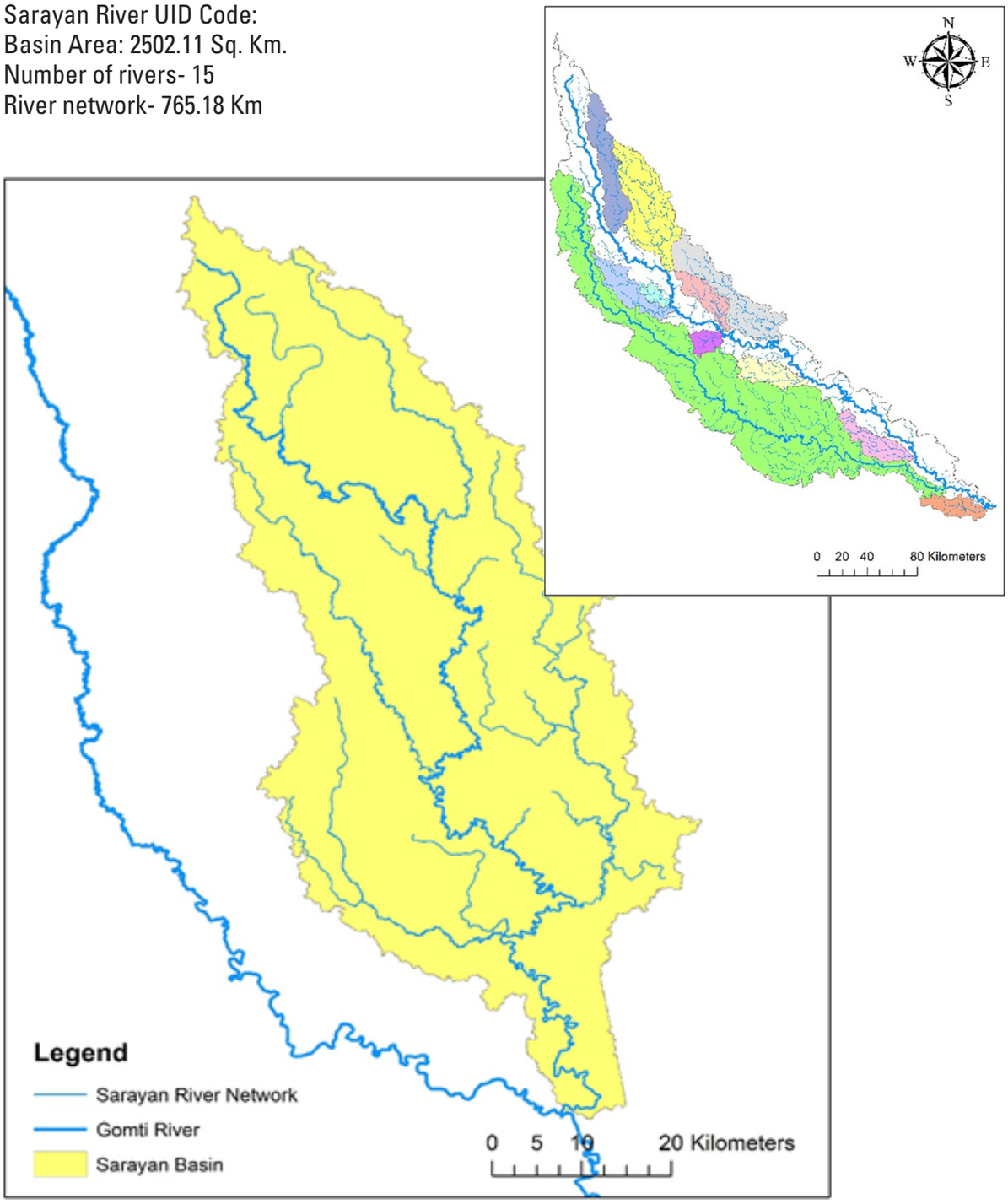


Figure: Sarayan River Network

SARAYAN RIVER MAINSTEM FLOW DIAGRAM

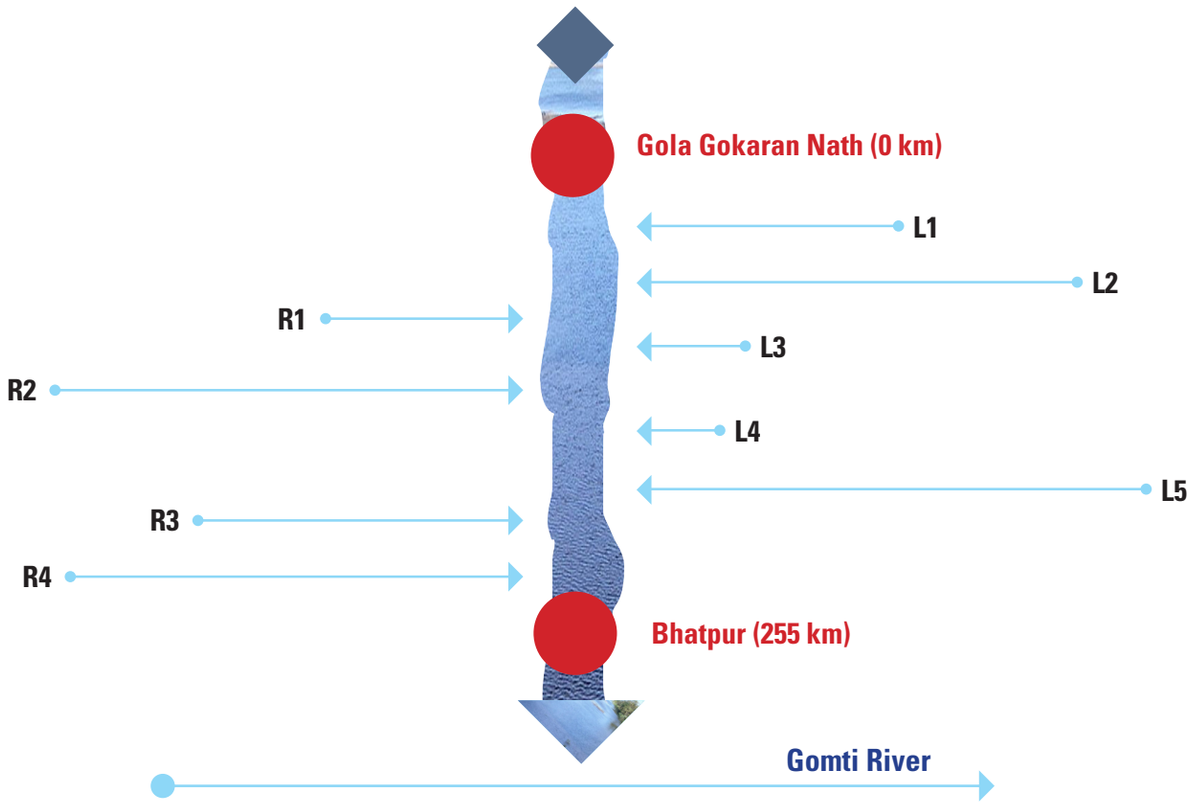


Figure: Flow diagram of Sarayan River

SARAYAN RIVER MAINSTEM NETWORK						
S.No.	River Name	Confluence Bank	River Length (Km)	Confluence Co-ordinate		Distance from origin (km)
				Lat	Long	
1	Suthehra Drain	L1	28.49	27.91	80.51	36.7
2	Jamuari River	L2	66.6	27.82	80.66	66.3
3	Abgawan Drain	R1	9.59	27.76	80.66	75.8
4	Parsehra Drain	L3	8.64	27.74	80.69	81.8
5	Pirai Drain	R2	80.49	27.55	80.65	136
6	Stream 1	L4	6.74	27.48	80.73	165
7	Gona river	L5	99.6	27.42	80.80	186
8	Stream 2	R3	31.1	27.39	80.73	202
9	Beta River	R4	62.75	27.39	80.73	201

KATHNA BASIN

Kathna River UID Code:
Basin Area: 1500.49 Sq. Km.
Number of rivers- 10
River network- 354.4 Km

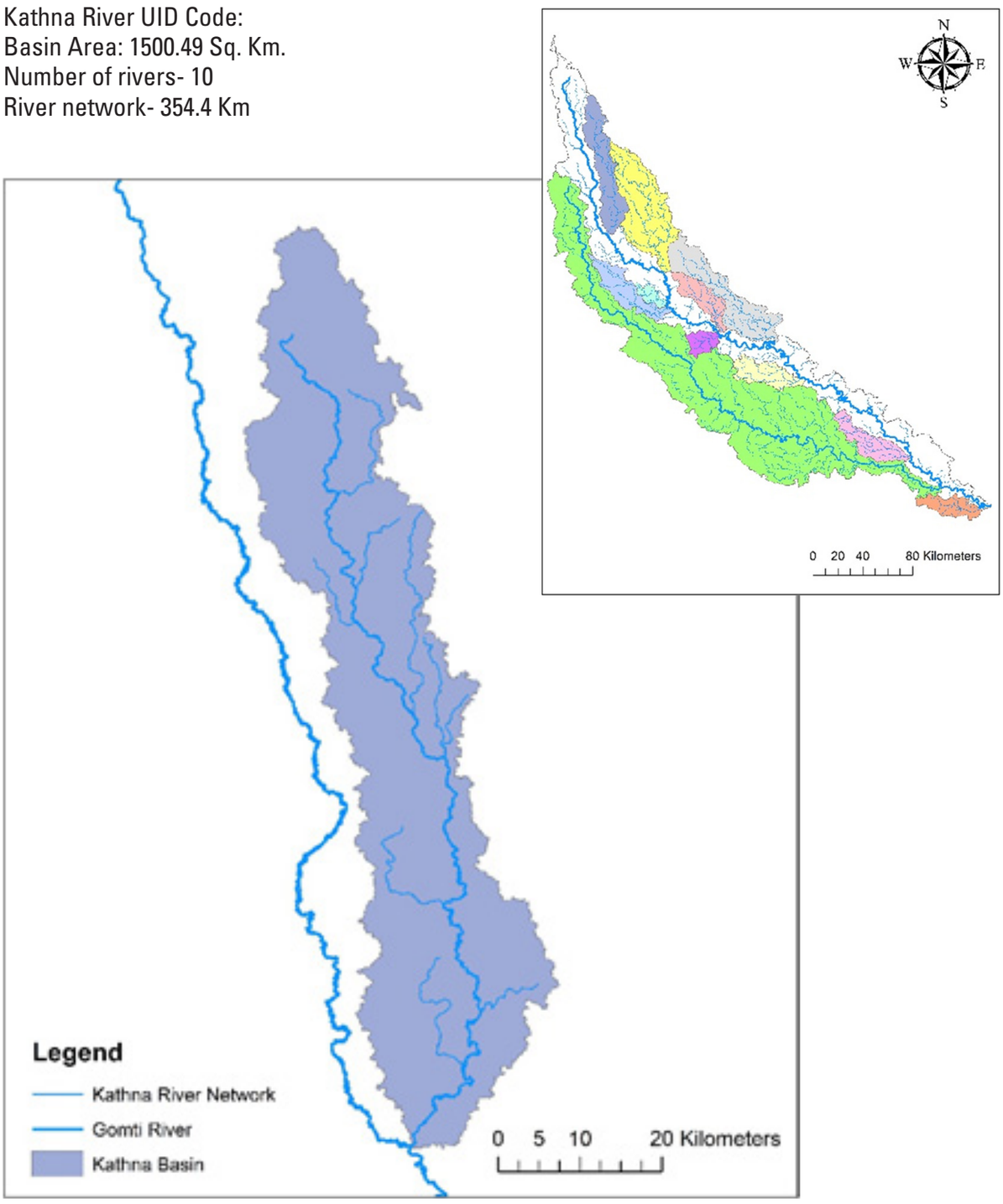


Figure: Kathna River Network

KATHNA RIVER MAINSTEM FLOW DIAGRAM

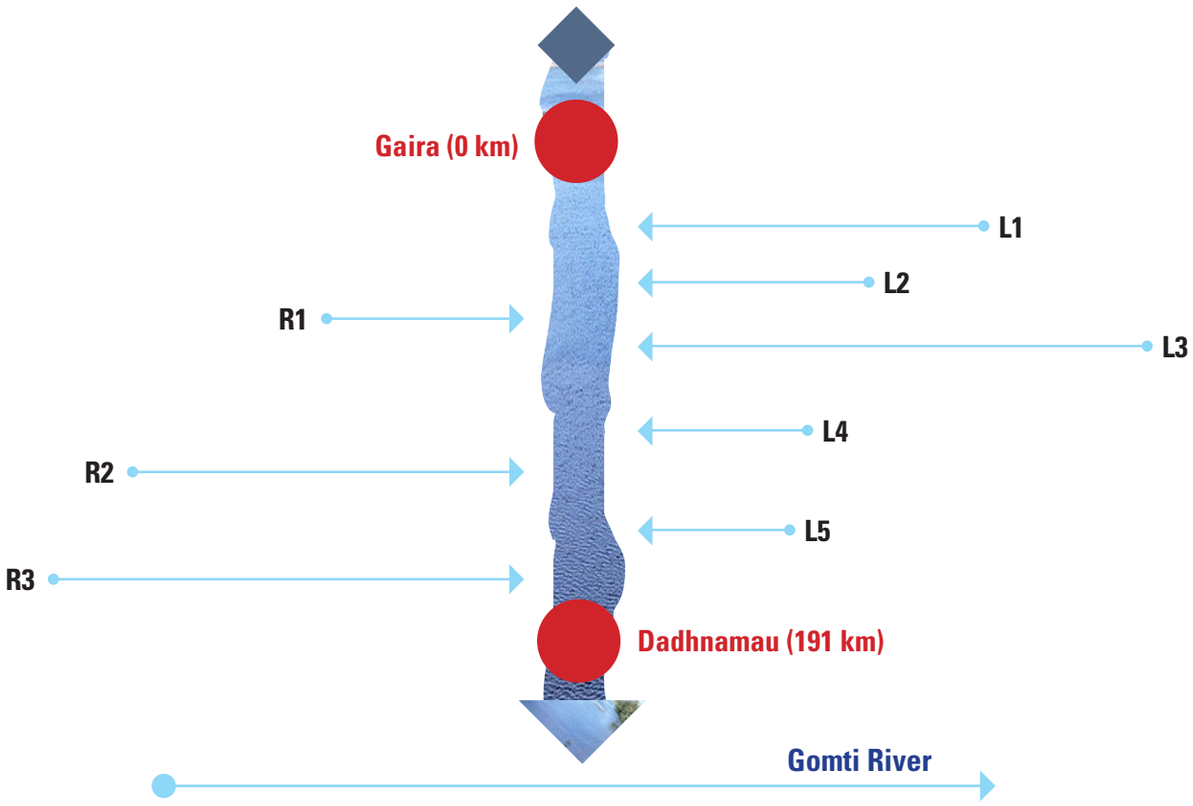


Figure: Flow diagram of Kathna River Network

KATHNA RIVER MAINSTEM NETWORK						
S.No.	River Name	Confluence Bank	River Length (Km)	Confluence Co-ordinate		Distance from origin (km)
				Lat	Long	
1	Kalwakundi Drain	L1	21.35	28.19	80.31	34.7
2	Drain	L2	13.4	28.09	80.33	52.9
3	Kathwa River	R1	11.55	28.05	80.34	59
4	Drain 2	L3	33	27.95	80.39	80
5	Drain 3	L4	11.5	27.90	80.43	90.8
6	Khareri Drain	R2	20.7	27.74	80.43	126
7	Kasera Nala	L5	11.4	27.62	80.47	153
8	Siwai Drain	R3	22.8	27.56	80.45	167

RETH BASIN

Reth River UID Code:
Basin Area: 719.21 Sq. Km.
Number of rivers- 11
River network- 235.4 Km

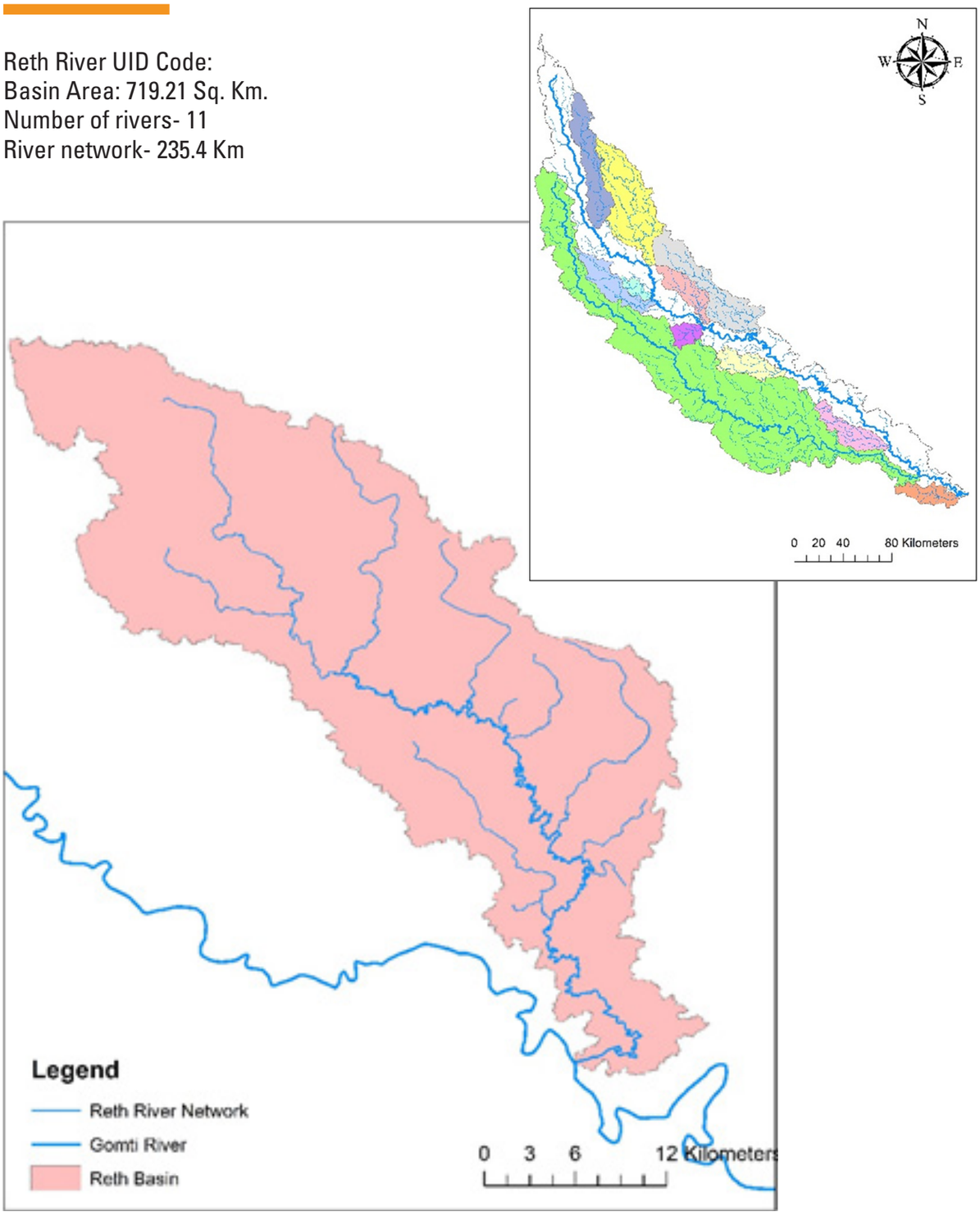


Figure: Reth River Network

RETH RIVER MAINSTEM FLOW DIAGRAM

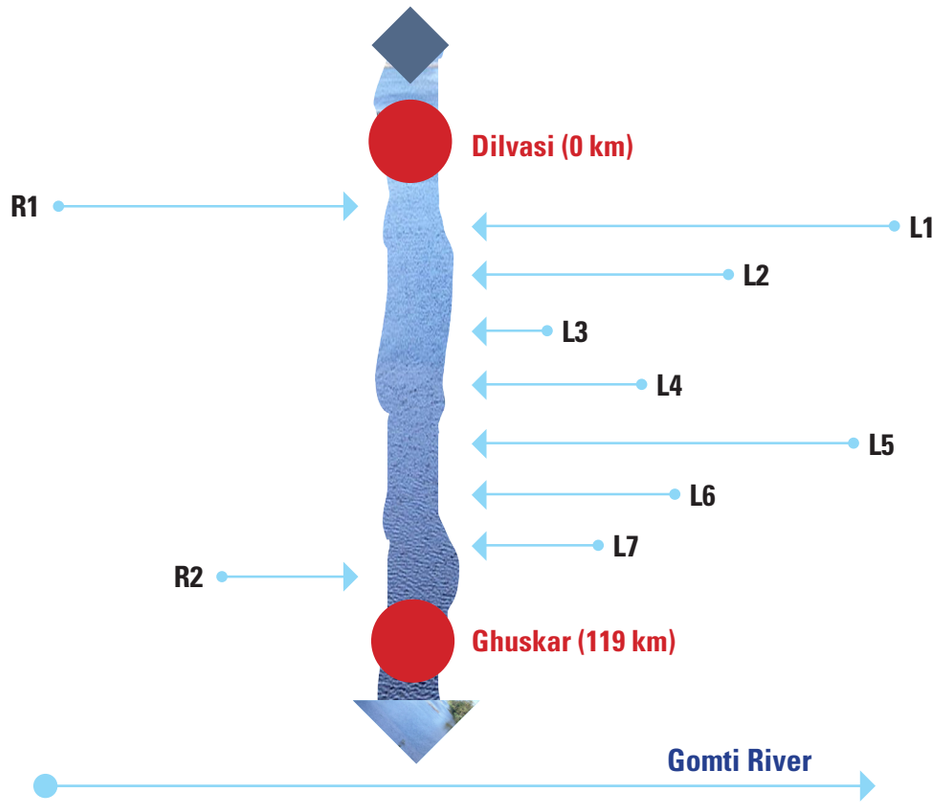


Figure: Flow Diagram of Reth River Network

RETH RIVER MAINSTEM NETWORK						
S.No.	River Name	Confluence Bank	River Length (Km)	Confluence Co-ordinate		Distance from origin (km)
				Lat	Long	
1	Drain	R1	11.2	27.03	81.02	28.3
2	Reth River2	L1	25.6	27.00	81.05	37.5
3	Narwa Drain	L2	15.8	26.98	81.13	52.2
4	Nawar Drain	L3	2.45	26.97	81.14	57.3
5	Maholia Drain	L4	9	26.96	81.15	59.1
6	Jamuria Drain	L5	21.2	26.91	81.18	76.8
7	Stream 1	L6	7.47	26.89	81.19	82.7
8	Nanmau Drain	L7	4.54	26.88	81.20	83.7
9	Murra drain	R2	4.23	26.85	81.18	91.1

BEHTA BASIN

Behta River UID Code:
Basin Area: 958.34 Sq. Km.
Number of rivers- 07
River network- 256.3 Km

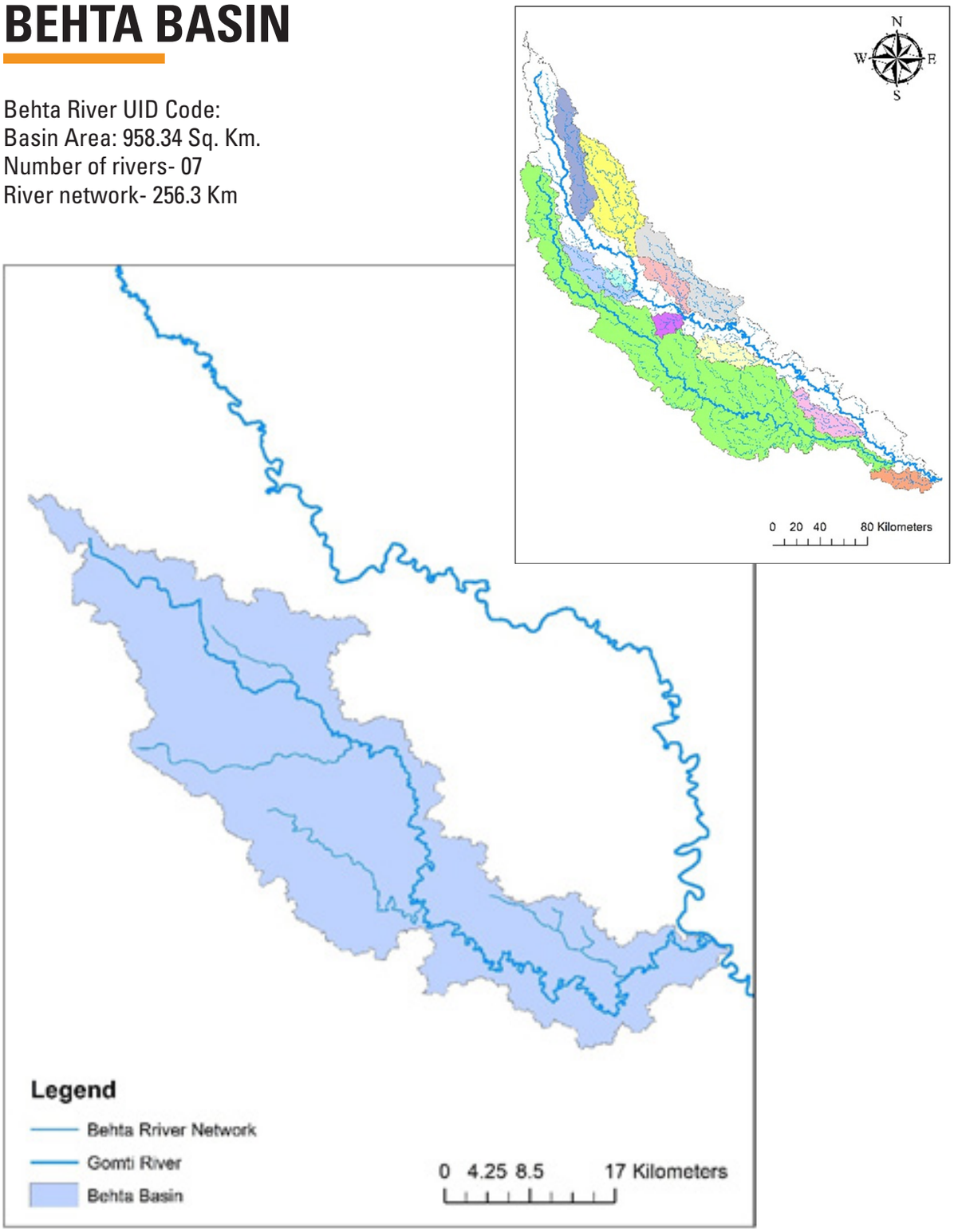


Figure: Behta River Network

BEHTA RIVER MAINSTEM FLOW DIAGRAM

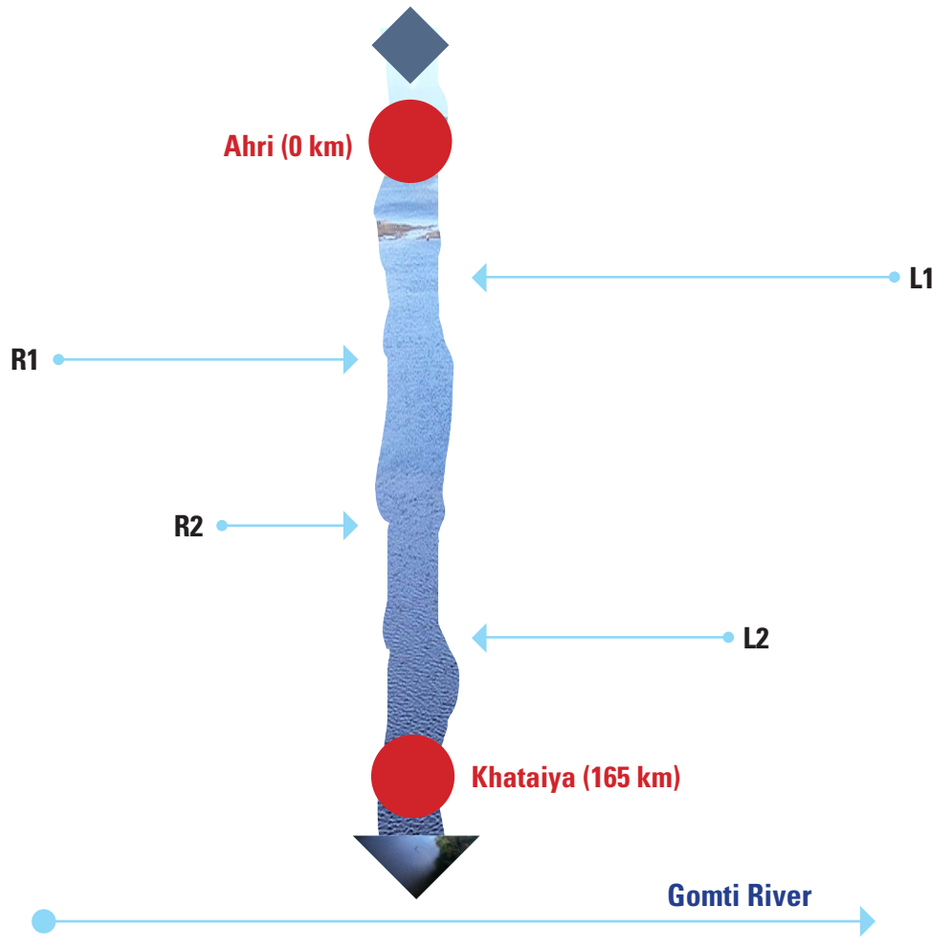


Figure: Flow Diagram of Behta River Network

BEHTA RIVER MAINSTEM NETWORK						
S.No.	River Name	Confluence Bank	River Length (Km)	Confluence Co-ordinate		Distance from origin (km)
				Lat	Long	
1	Stream 1	L1	10.7	27.17	80.48	32.6
2	Loni Drain	R1	26.03	27.12	80.53	44
3	Sakrela Drain	R2	30.8	26.97	80.59	81
4	Panjharia/ Hariharpur Drain	L2	17.6	26.90	80.78	144

JHILINGI BASIN

Jhilingi River UID Code:
Basin Area: 224.67 Sq. Km.
Number of rivers- 05
River network- 88.25 Km

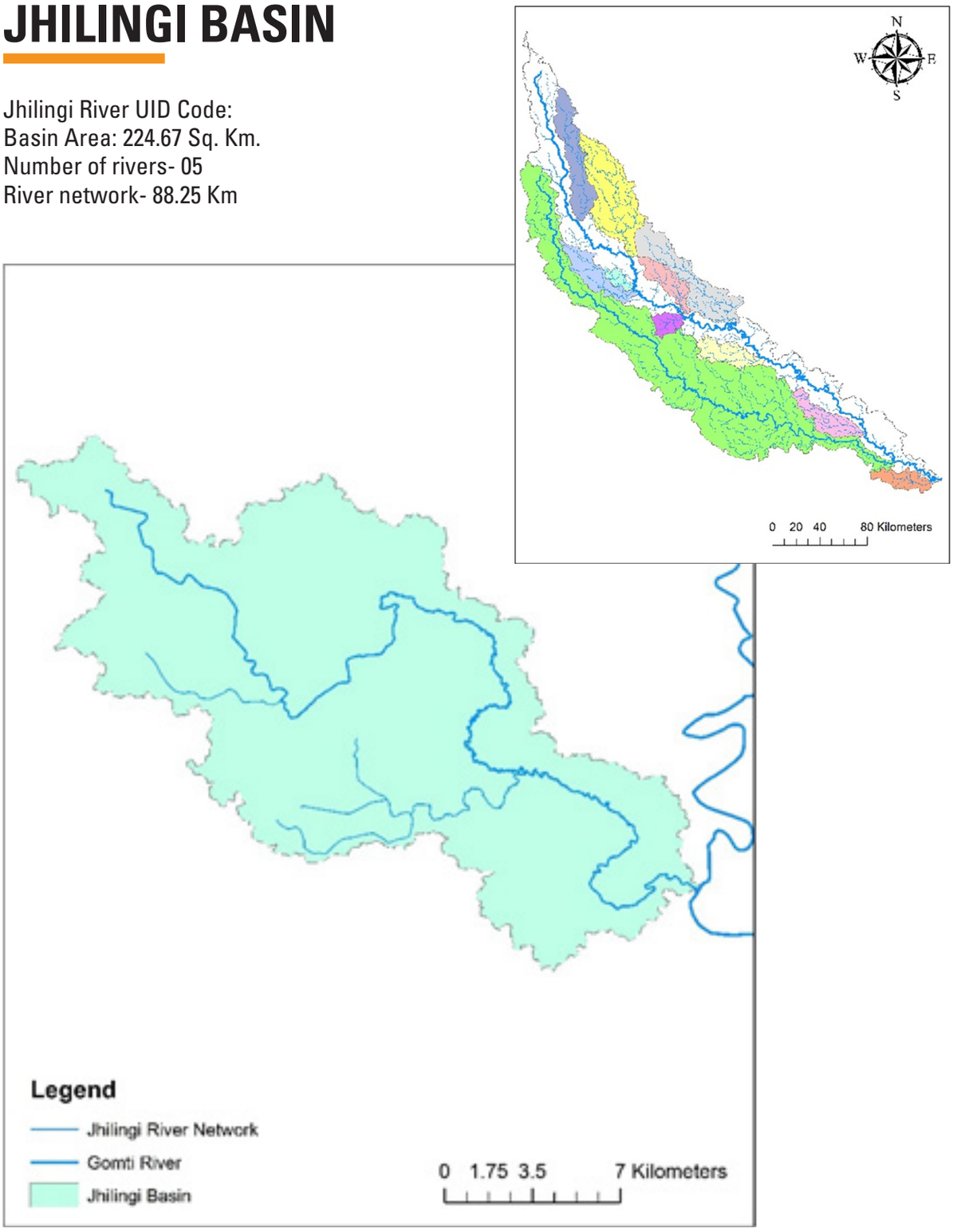


Figure: Jhilingi River Network

JHILINGI RIVER MAINSTEM FLOW DIAGRAM

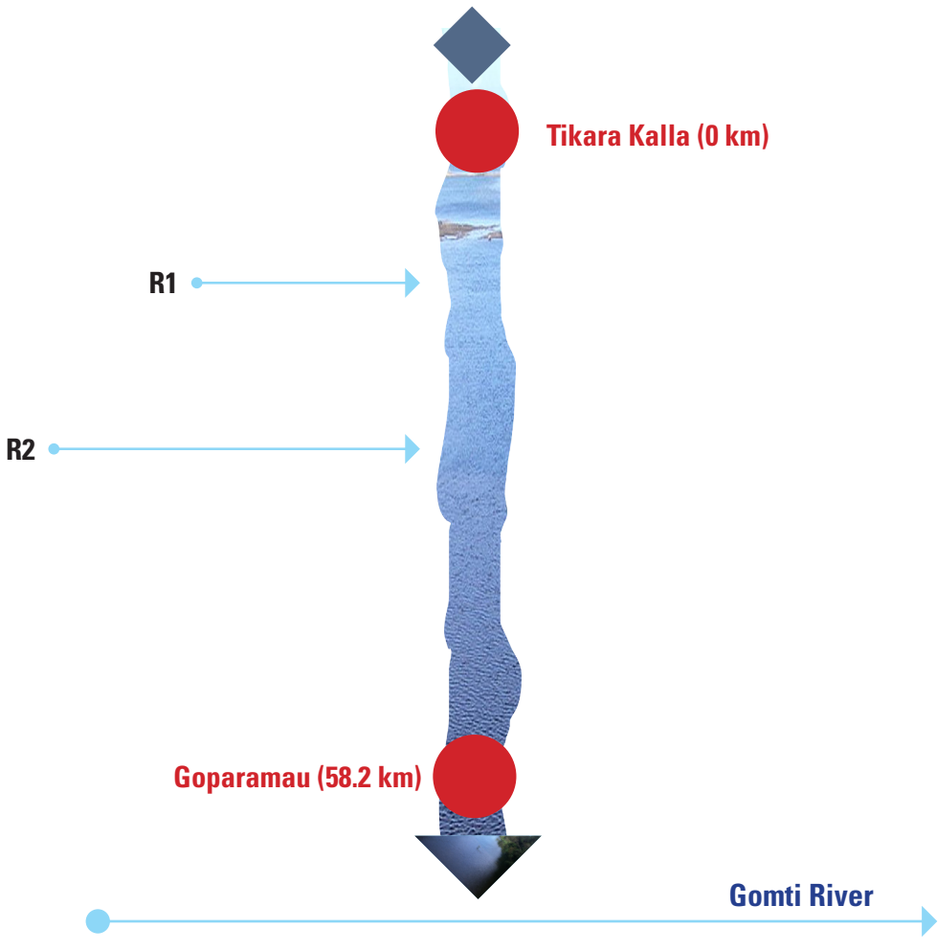


Figure: Flow Diagram of Jhilingi River Network

JHILINGI RIVER MAINSTEM NETWORK						
S.No.	River Name	Confluence Bank	River Length (Km)	Confluence Co-ordinate		Distance from origin (km)
				Lat	Long	
1	Ladhana Drain	R1	6.1	27.03	80.68	13.7
2	Matariya/ Saidpur Drain	R2	13.9	27.00	80.76	41.5

LONI DRAIN BASIN

Loni drain UID Code:
Basin Area: 348.64 Sq. Km.
Number of rivers- 06
River network- 85.5 Km

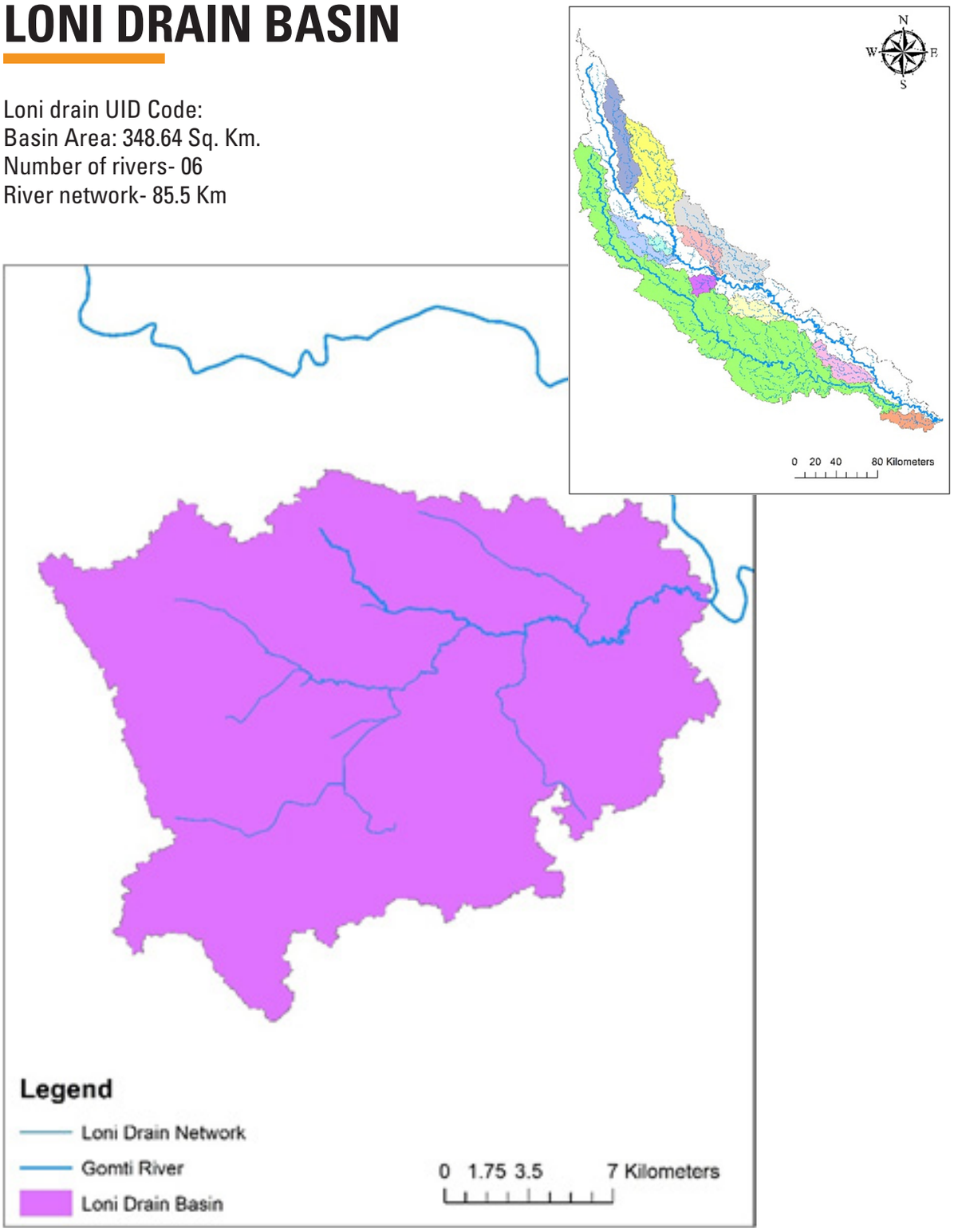


Figure: Loni River Network

LONI DRAIN MAINSTEM FLOW DIAGRAM

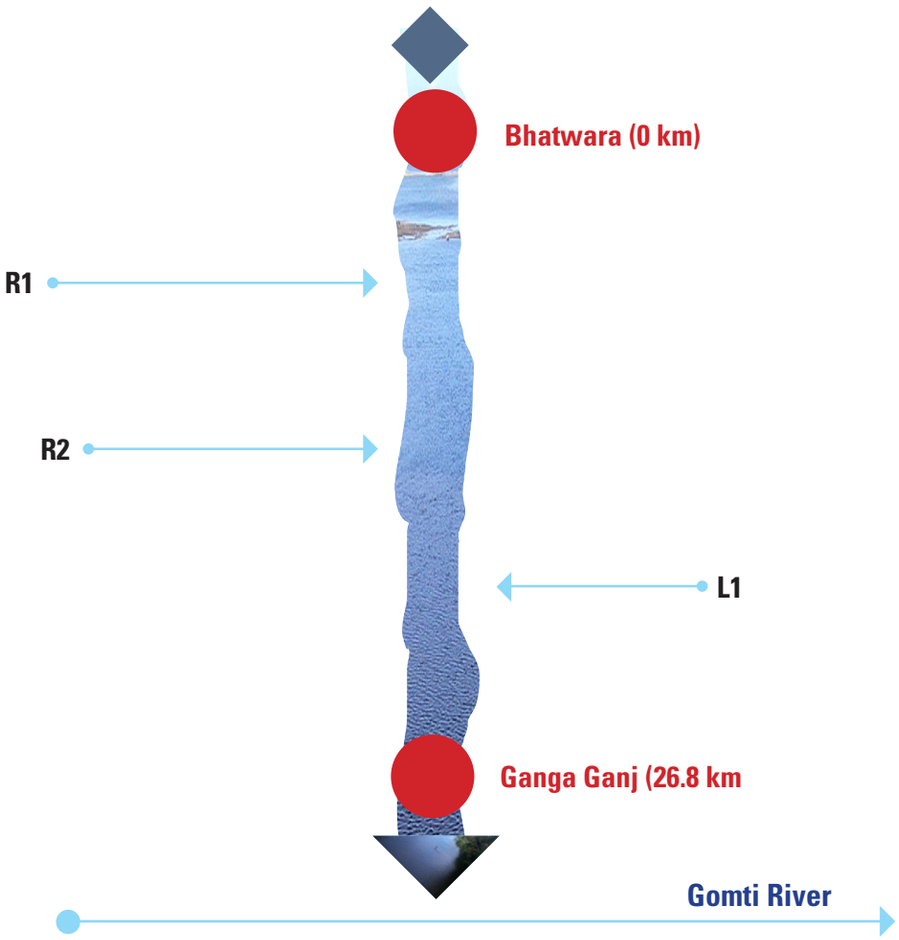


Figure: Flow Diagram of Loni River Network

LONI DRAIN MAINSTEM NETWORK						
S.No.	River Name	Confluence Bank	River Length (Km)	Confluence Co-ordinate		Distance from origin (km)
				Lat	Long	
1	Loni Drain 2	R1	11.9	26.72	81.11	9.6
2	Mitauli Drain	R2	11.2	26.72	81.13	12.2
3	Drain	L1	10.2	26.72	81.15	15.3

KANDU DRAIN BASIN

Kandu drain UID Code:
Basin Area: 773.00 Sq. Km.
Number of rivers- 08
River network- 234.4 Km

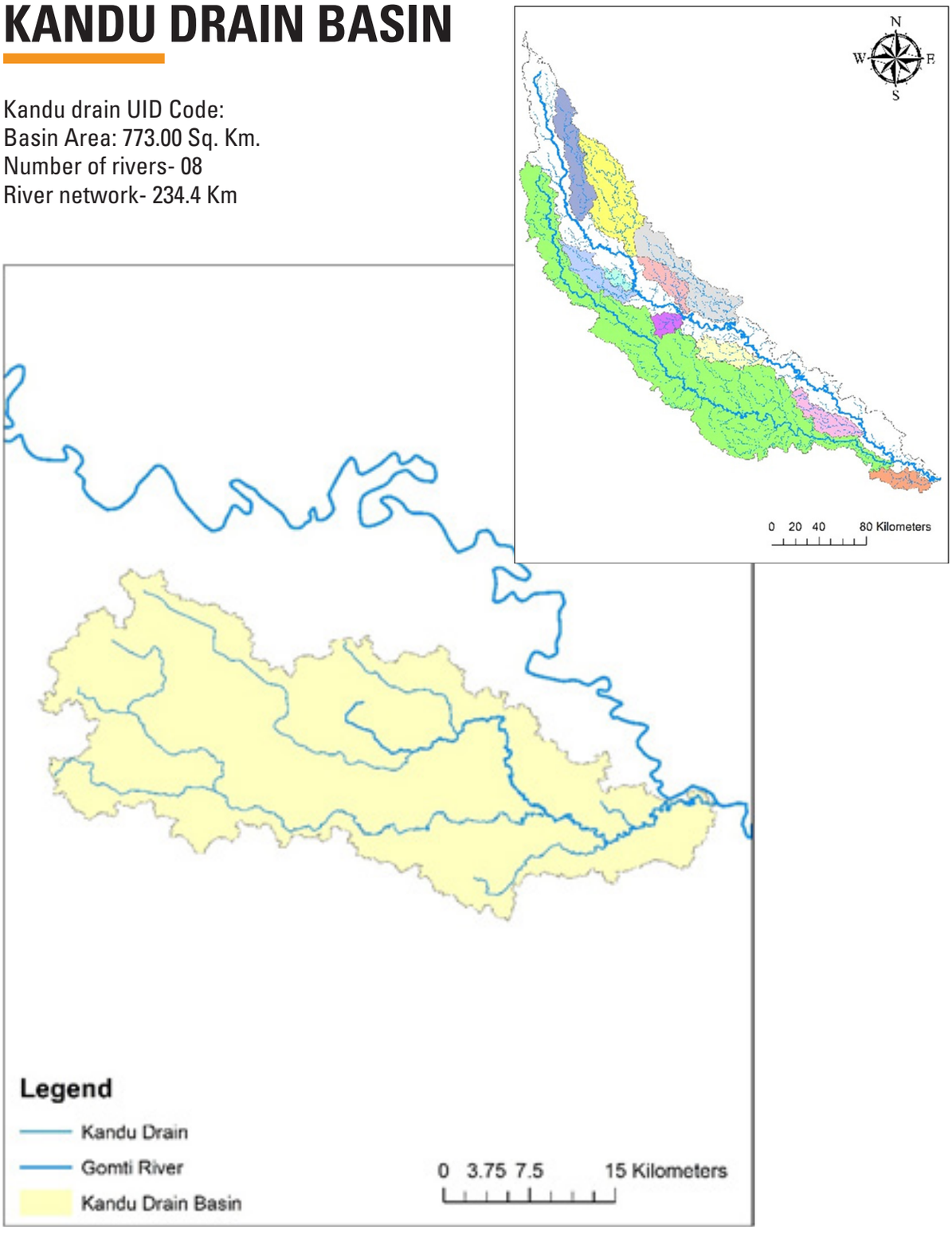


Figure: Kandu River Network

KANDU DRAIN MAINSTEM FLOW DIAGRAM

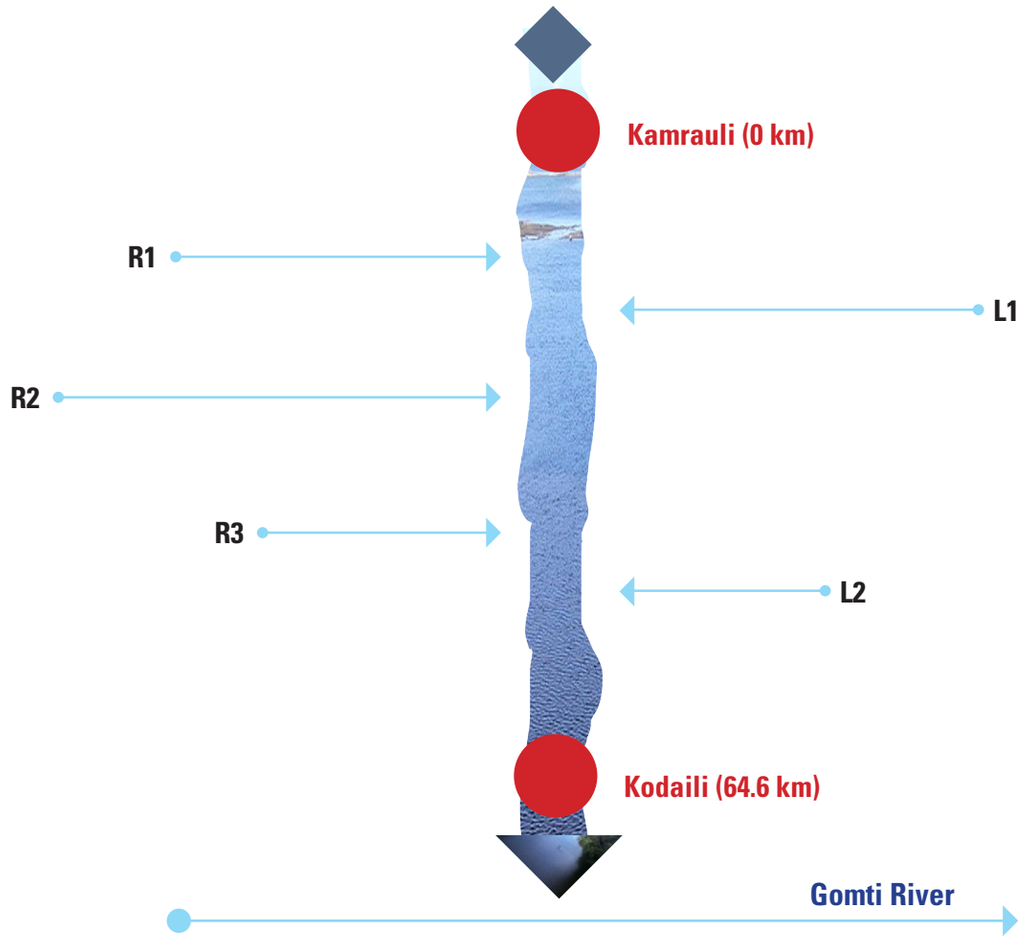


Figure: Flow Diagram of Kandu River Network

KANDU DRAIN MAINSTEM NETWORK						
S.No.	River Name	Confluence Bank	River Length (Km)	Confluence Co-ordinate		Distance from origin (km)
				Lat	Long	
1	Inhauna Nala	R1	33.3	26.46	81.58	9.1
2	Stream1	L1	15.6	26.48	81.62	14.3
3	Naiya Drain	R2	66.8	26.42	81.69	35.6
4	Kandu Drain 2	R3	18.7	26.39	81.74	45.4
5	Karahiya Nala	L2	5.3	26.41	81.76	49.7

PILI BASIN

Pili River UID Code:
Basin Area: 834.76 Sq. Km.
Number of rivers- 12
River network- 277.31 Km

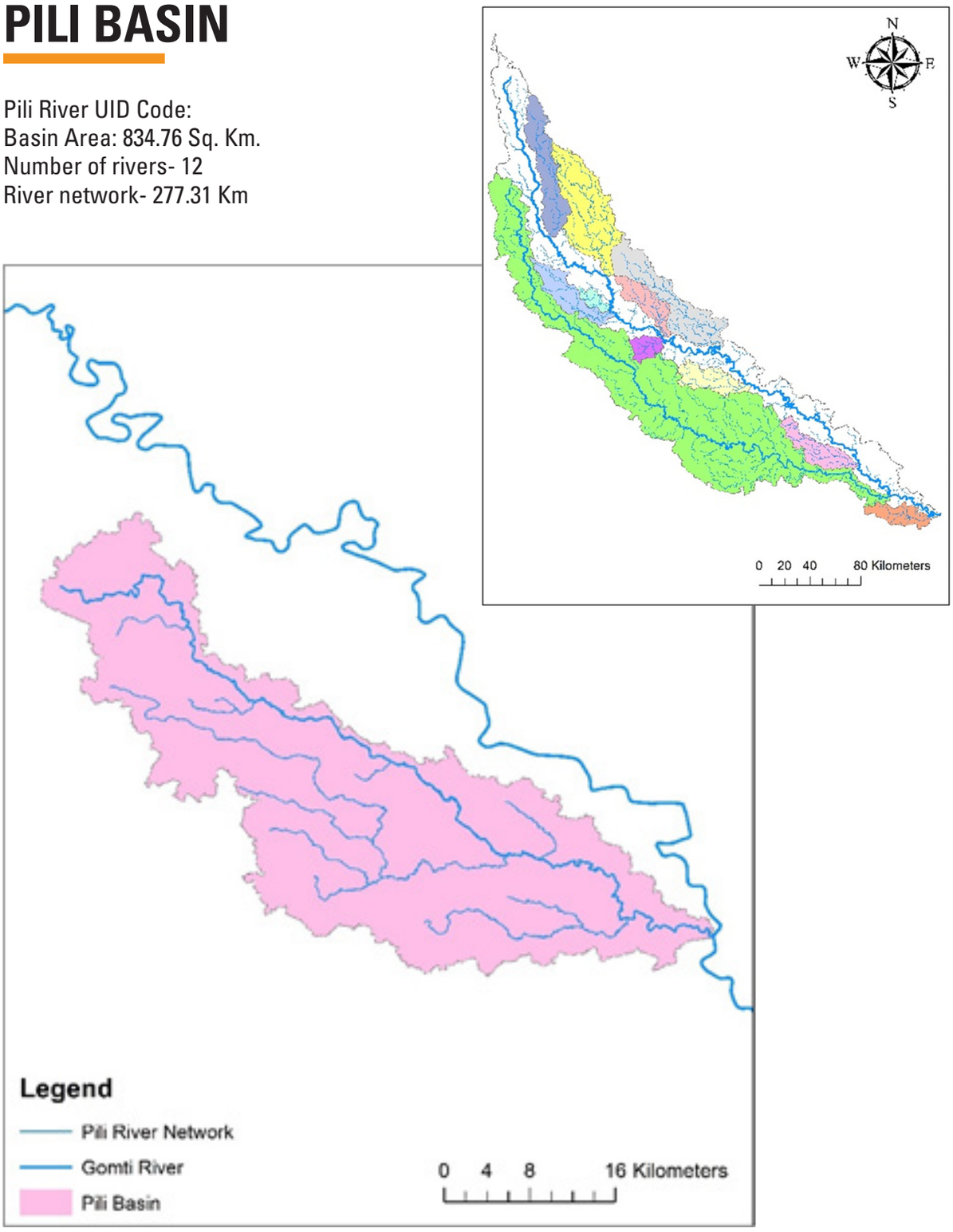


Figure: Pili River Network

PILI RIVER MAINSTEM FLOW DIAGRAM

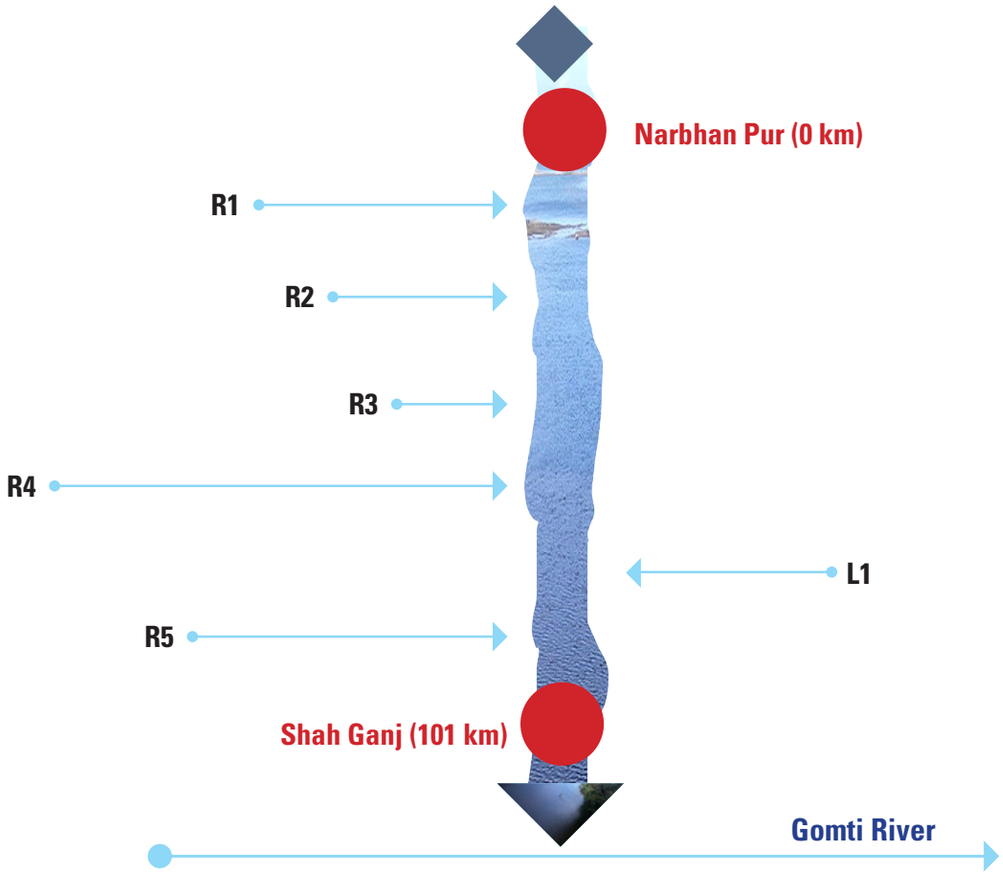


Figure: Flow Diagram of Pili River Network

PILI RIVER MAINSTEM NETWORK						
S.No.	River Name	Confluence Bank	River Length (Km)	Confluence Co-ordinate		Distance from origin (km)
				Lat	Long	
1	Stream 3	R1	8.3	26.11	82.15	21.5
2	Stream 2	R2	5	26.05	82.20	33.6
3	Drain	R3	4.32	26.00	82.32	50.8
4	Tambura Drain	R4	63.2	25.92	82.41	68.5
5	Stream1	L1	10.8	25.92	82.44	72.8
6	Lakhia/Kaliyara Drain	R5	30.6	25.87	82.52	88.6

NAND BASIN

Nand River UID Code:
Basin Area: 554.10 Sq. Km.
Number of rivers- 08
River network- 154.07 Km

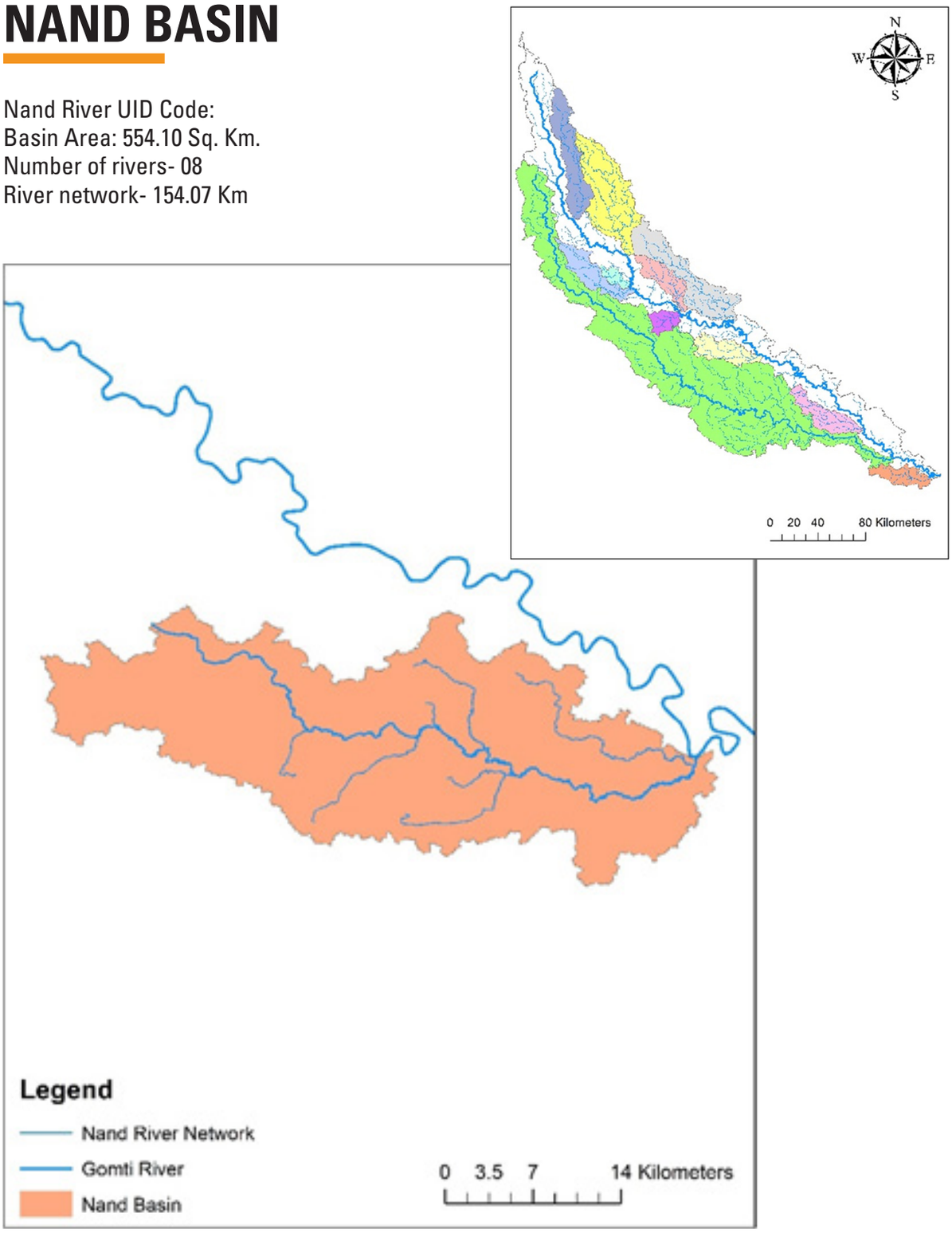


Figure: Nand River Network

NAND RIVER MAINSTEM FLOW DIAGRAM

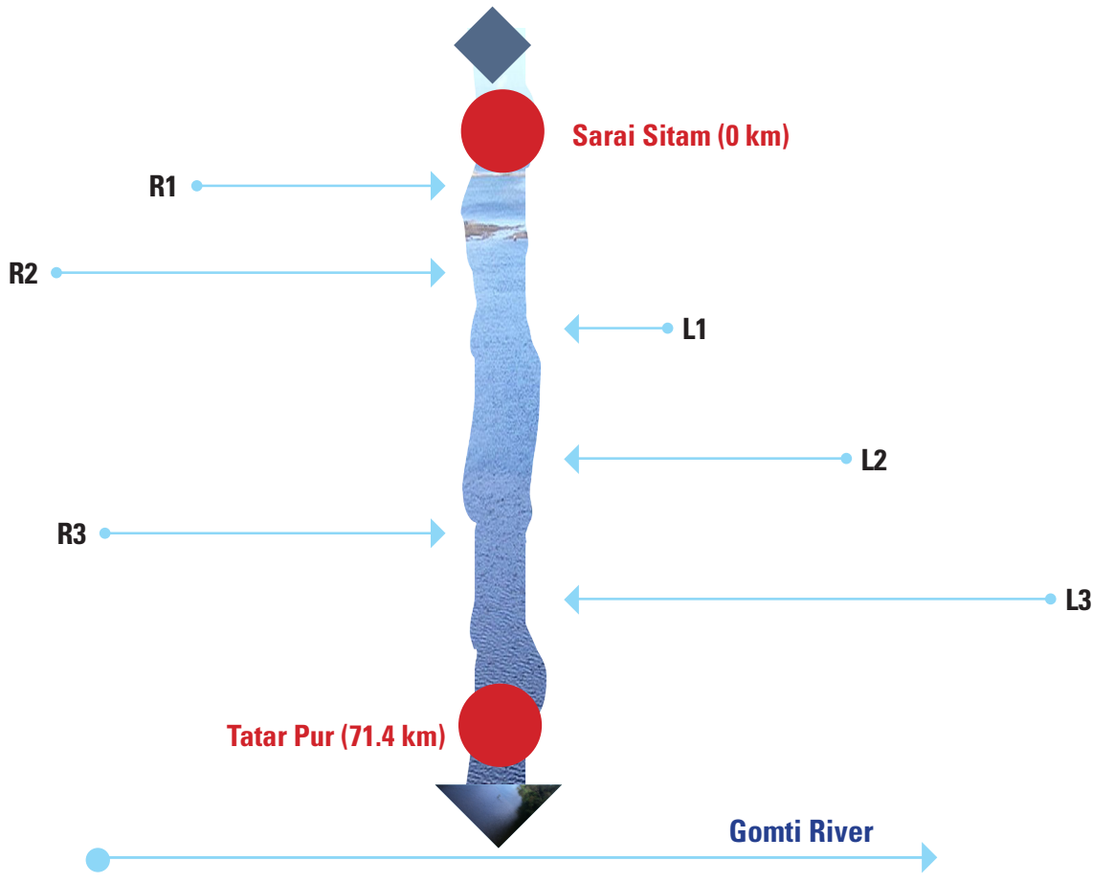
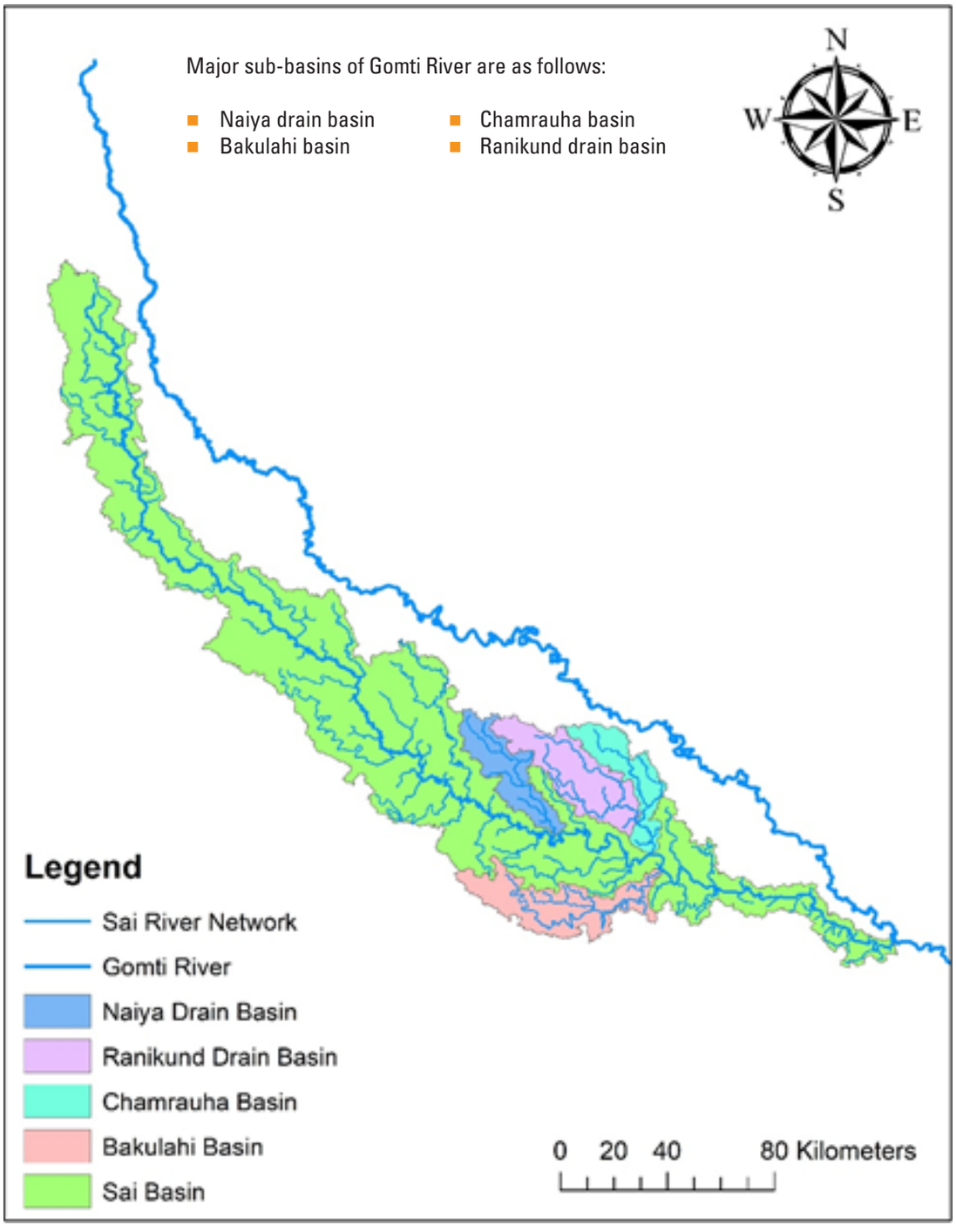


Figure: Flow Diagram of Nand River Network

NAND RIVER MAINSTEM NETWORK						
S.No.	River Name	Confluence Bank	River Length (Km)	Confluence Co-ordinate		Distance from origin (km)
				Lat	Long	
1	Stream5	R1	6.46	25.51	82.81	19.6
2	Stream4	R2	13	25.51	82.89	31.1
3	Stream 3	L1	2.66	25.51	82.90	33.9
4	Stream 2	L2	14	25.50	82.94	41
5	Stream 1	R3	13	25.48	82.96	47.3
6	Atthi Drain	L3	26.6	25.48	83.09	70.45

SAI BASIN: MAJOR SUB-BASINS



NAIYA DRAIN BASIN

Naiya drain UID Code:
Basin Area: 582.15 Sq. Km.
Number of rivers- 06
River network 154.85 Km

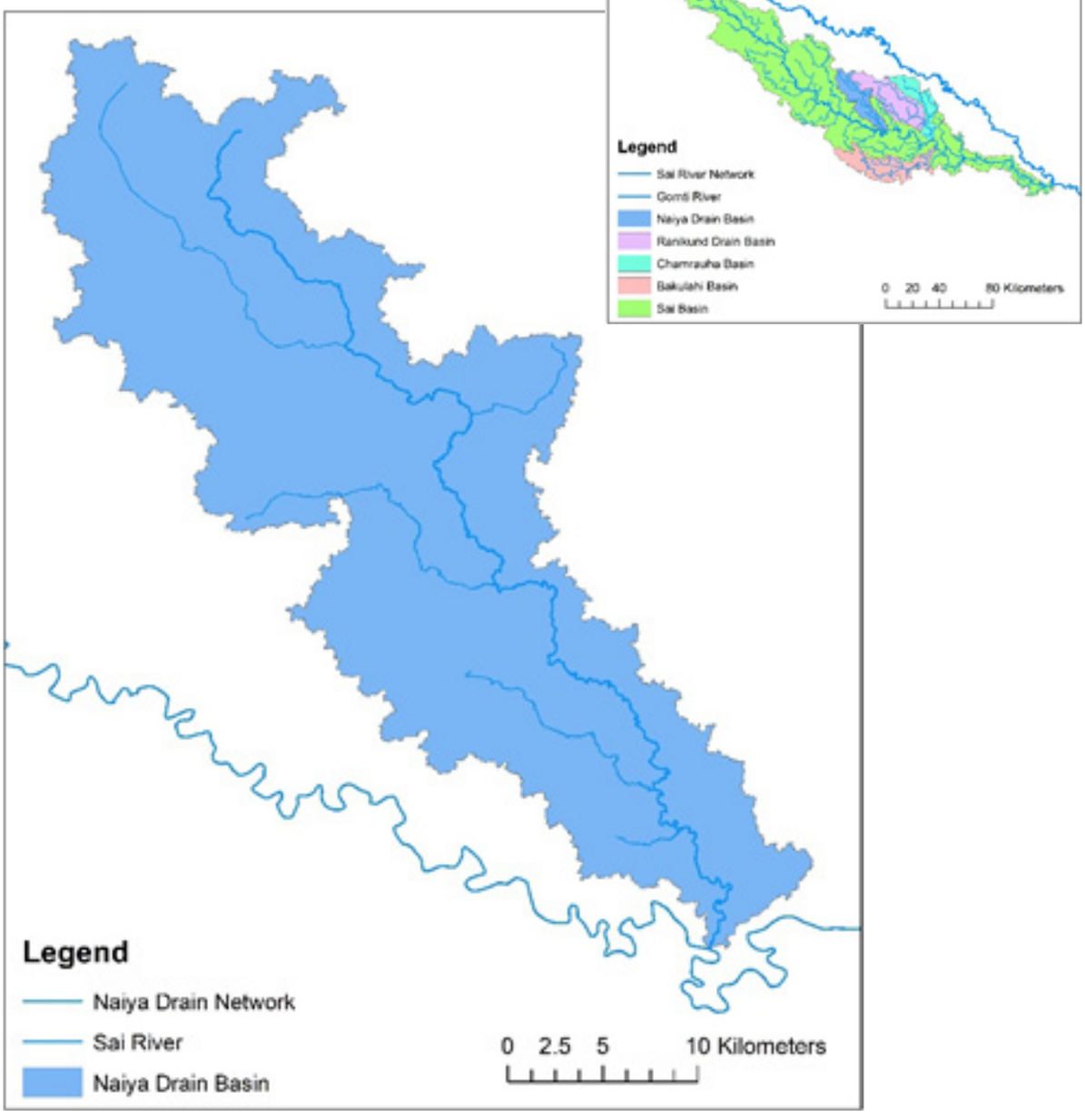


Figure: Naiya Drain Network

NAIYA DRAIN MAINSTEM FLOW DIAGRAM

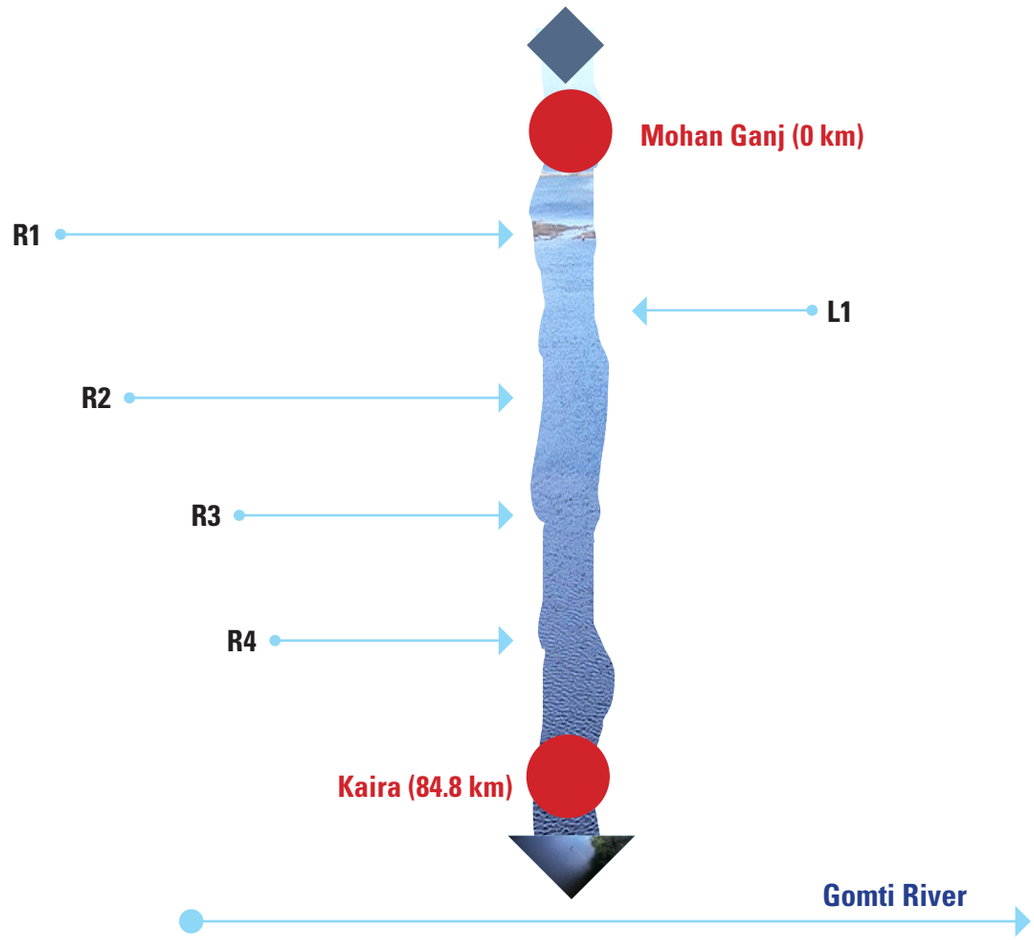


Figure: Flow Diagram of Naiya Drain Network

NAIYA DRAIN MAINSTEM NETWORK						
S.No.	River Name	Confluence Bank	River Length (Km)	Confluence Co-ordinate		Distance from origin (km)
				Lat	Long	
1	Ganda Nala Drain	R1	22.3	26.28	81.48	22.2
2	Stream 3	L1	8.65	26.25	81.54	32.3
3	Stream 2	R2	21	26.17	81.55	46.3
4	Sutia Drain	R3	17	26.07	81.63	68.9
5	Stream 1	R4	5	26.05	81.64	73.5

BAKULAHI BASIN

Bakulahi River UID Code:
Basin Area: 918.22 Sq. Km.
Number of rivers- 09
River network- 231 Km

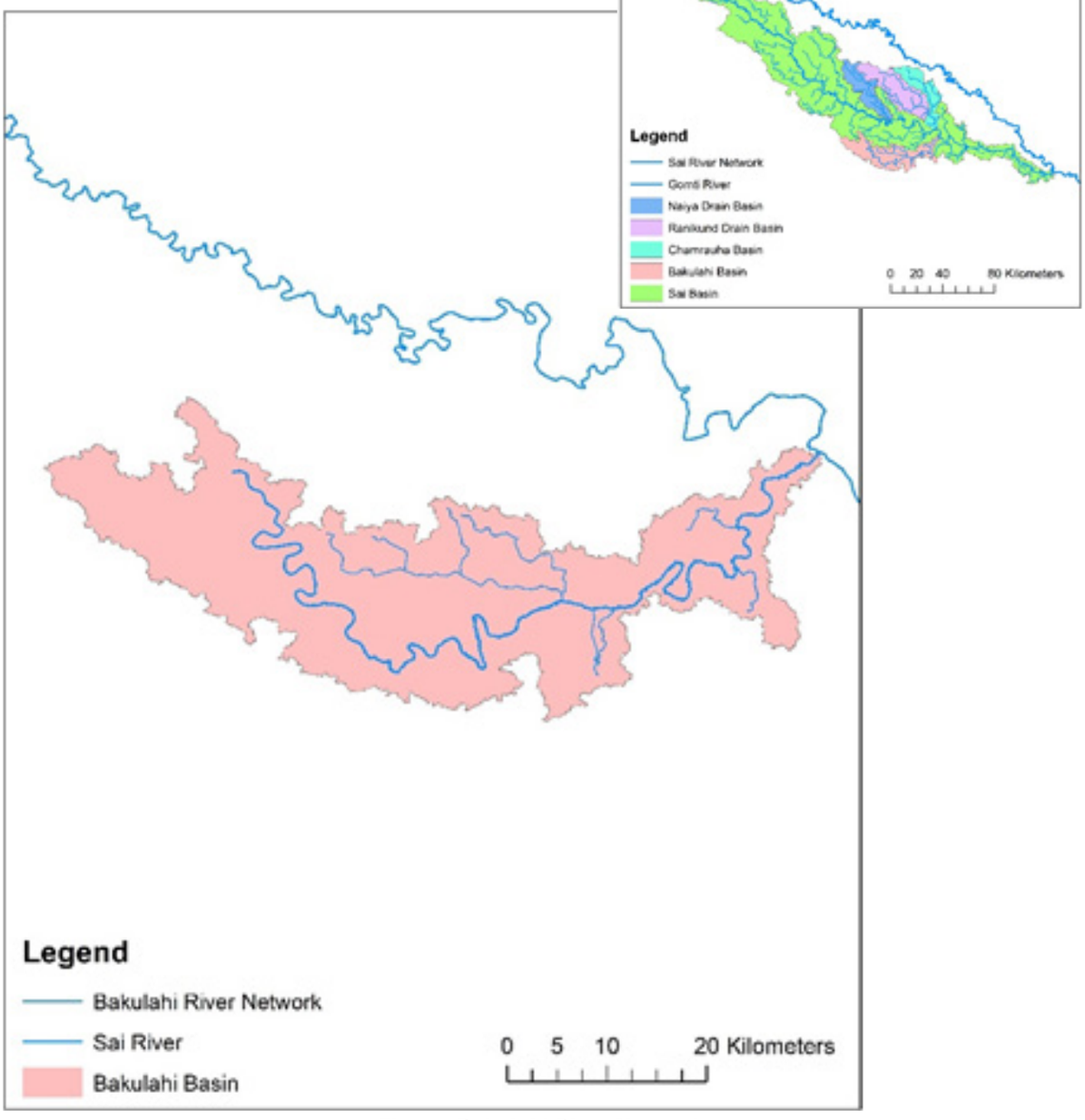


Figure: Bakulahi River Network

BAKULAHI RIVER MAINSTEM FLOW DIAGRAM

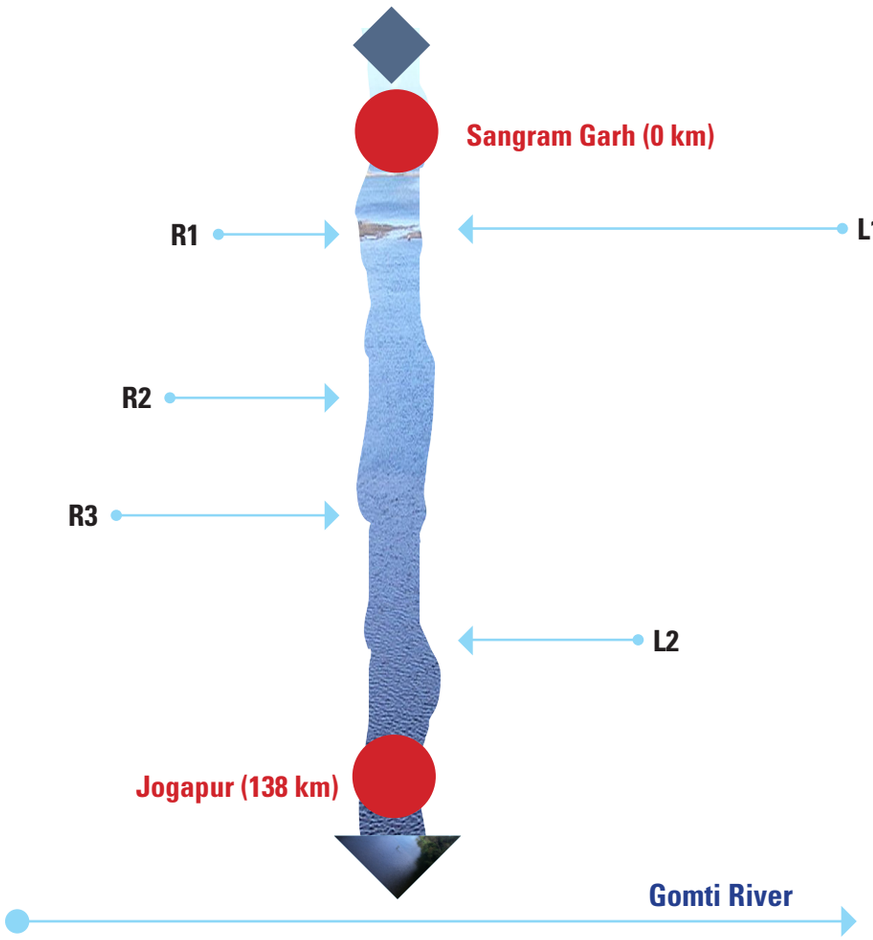


Figure: Flow Diagram of Bakulahi River Network

BAKULAHI RIVER MAINSTEM NETWORK						
S.No.	River Name	Confluence Bank	River Length (Km)	Confluence Co-ordinate		Distance from origin (km)
				Lat	Long	
1	Hiraganj Drain	L1	28.5	25.75	81.79	81.4
2	Stream 4	R1	7.72	25.74	81.82	84.6
3	Stream 3	R2	7.95	25.74	81.84	86.7
4	Stream 2	R3	8.18	25.78	81.95	114.7
5	Stream1	L2	8.89	25.82	81.95	122.7

CHAMRAUHA BASIN

Chamrauha River UID Code:
Basin Area: 1423.98 Sq. Km.
Number of rivers- 09
River network- 338.12 Km

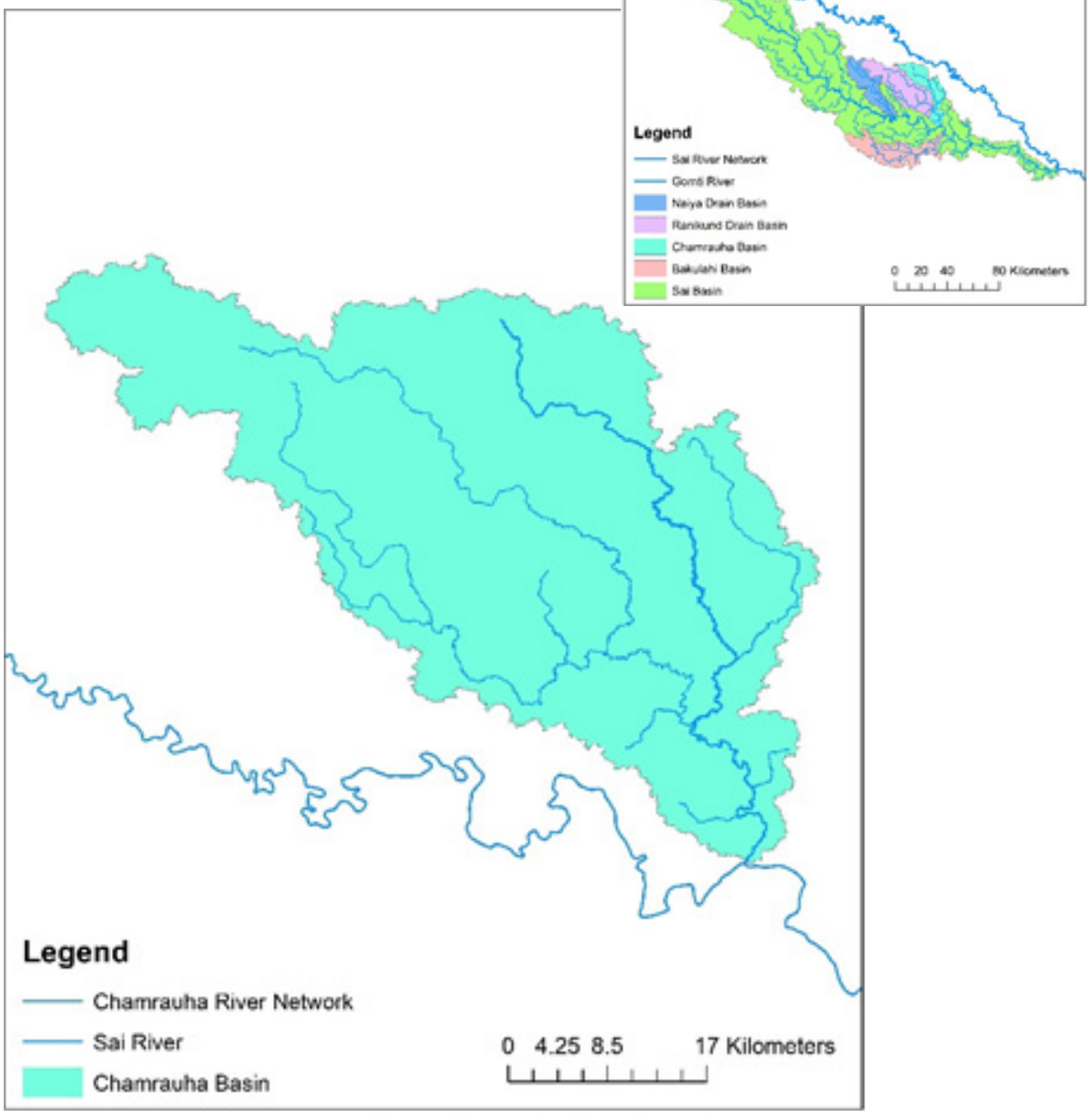


Figure: Chamrauha River Network

CHAMRAUHA RIVER MAINSTEM FLOW DIAGRAM

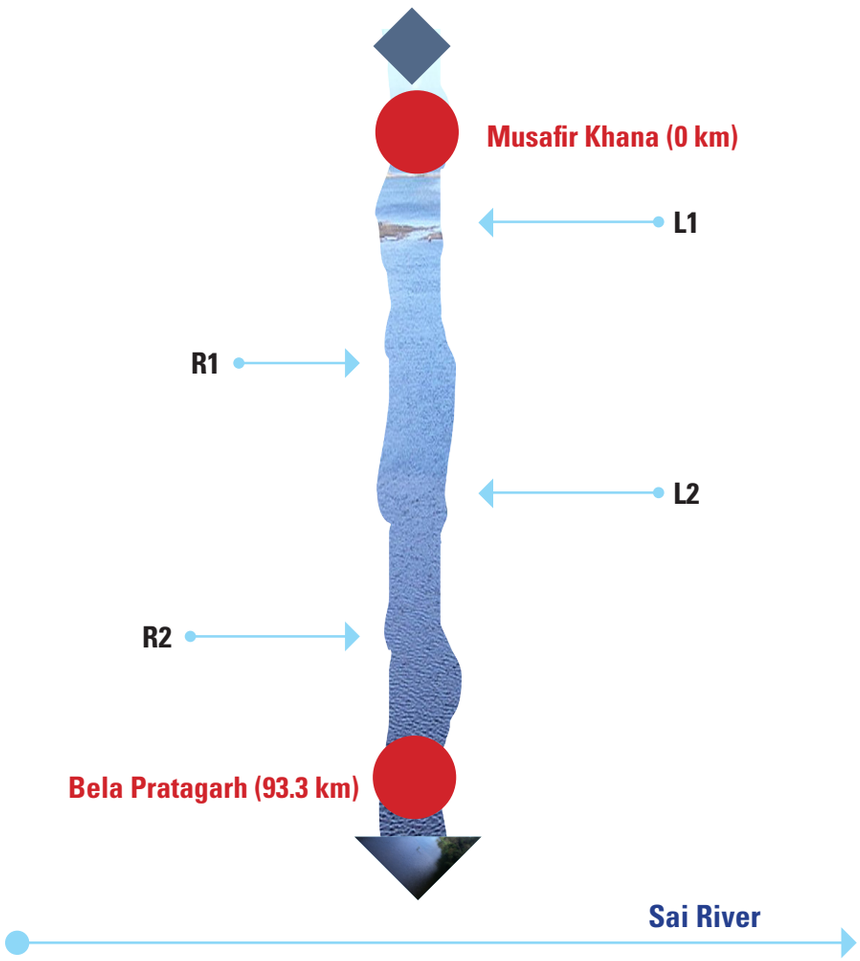


Figure: Flow Diagram of Chamrauha River Network

CHAMRAUHA RIVER MAINSTEM NETWORK						
S.No.	River Name	Confluence Bank	River Length (Km)	Confluence Co-ordinate		Distance from origin (km)
				Lat	Long	
1	Gurri Nadi	L1	31.9	26.10	81.98	57.1
2	Rani kund Drain	R1	90	26.04	81.94	69.6
3	Stream 2	L2	6.54	26.00	81.99	81.7
4	Stream 1	R2	7.1	25.97	81.98	85.68

RANIKUND DRAIN BASIN

Ranikund drain UID Code:
Basin Area: 874.52 Sq. Km.
Number of rivers- 05
River network- 199.28 Km

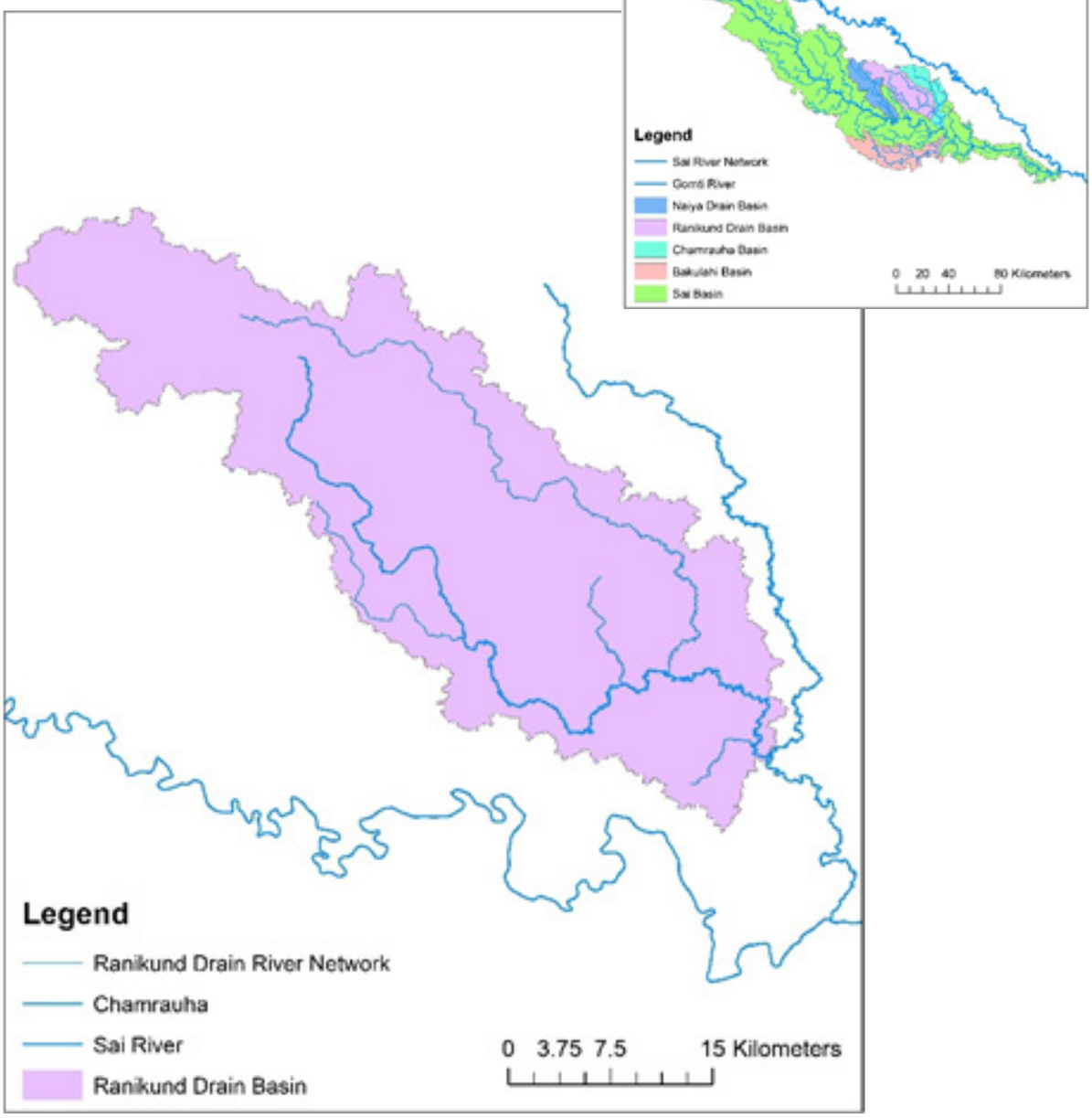


Figure: Ranikund Drain Network

RANIKUND DRAIN MAINSTEM FLOW DIAGRAM

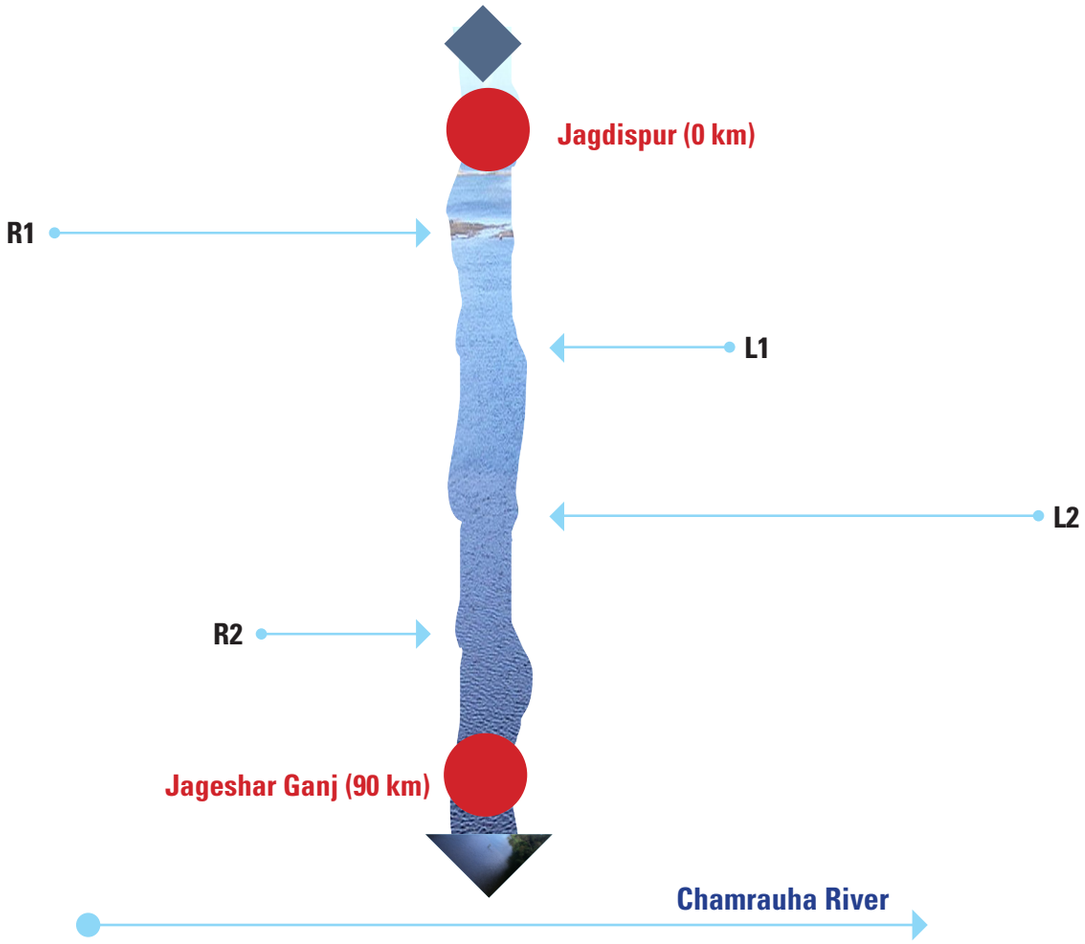


Figure: Flow Diagram of Ranikund Drain Network

RANIKUND DRAIN MAINSTEM NETWORK						
S.No.	River Name	Confluence Bank	River Length (Km)	Confluence Co-ordinate		Distance from origin (km)
				Lat	Long	
1	Masiawantal Drain	R1	20.1	26.12	81.74	34.8
2	Stream 3	L1	12.5	26.09	81.84	60.6
3	Naiya River	L2	68	26.10	81.87	67.2
4	Stream 1	R2	8.68	26.05	81.93	87.4

KALYANI BASIN: MAJOR SUB-BASINS

RARI DRAIN BASIN

Rari drain UID Code:
Basin Area: 354.71 Sq. Km.
Number of rivers- 05
River network- 123.1 Km

Figure: Rari Drain Network

RARI DRAIN MAINSTEM FLOW DIAGRAM

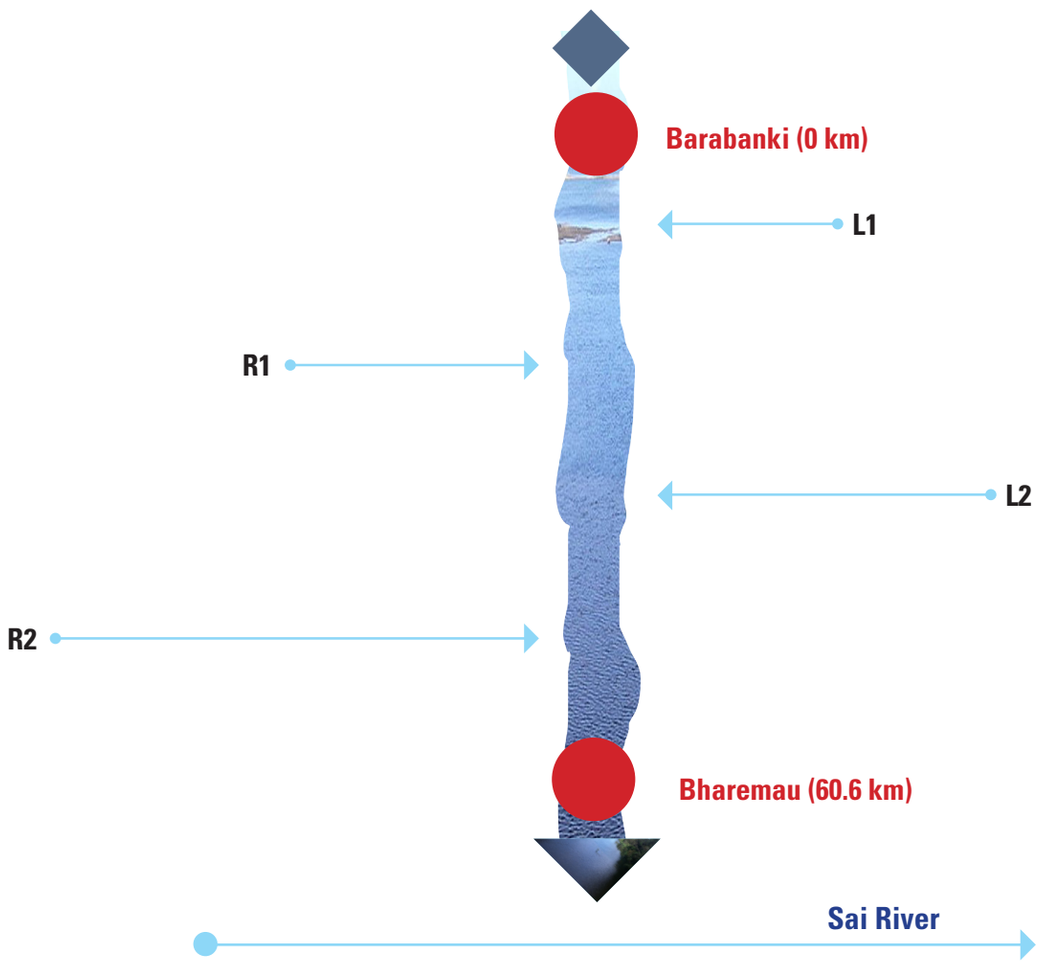
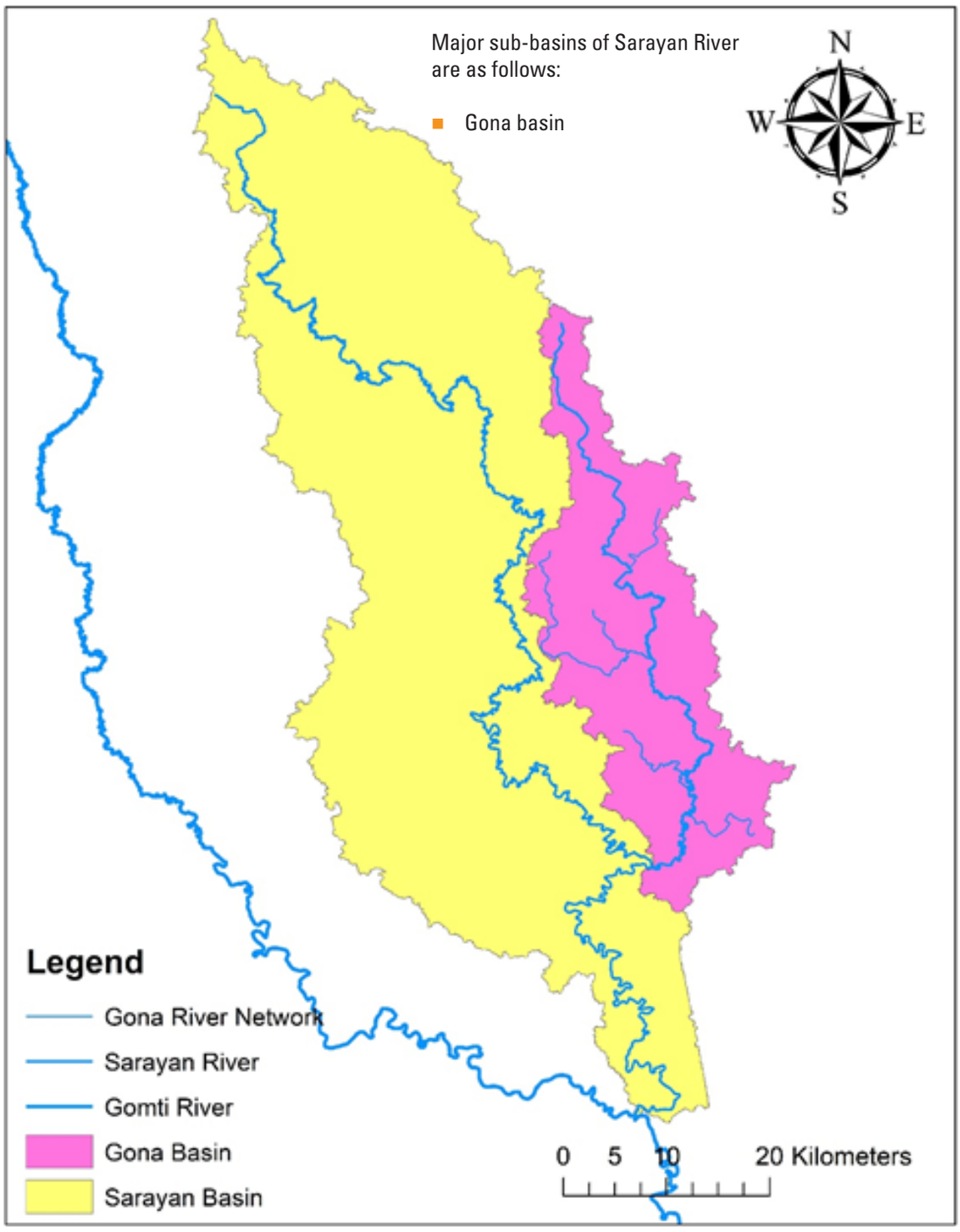


Figure: Flow Diagram of Rari Drain Network

RANI DRAIN MAINSTEM NETWORK						
S.No.	River Name	Confluence Bank	River Length (Km)	Confluence Co-ordinate		Distance from origin (km)
				Lat	Long	
1	Stream 1	L1	26.84	81.30	8.24	12.3
2	Nyuli Drain	R1	26.82	81.31	12.4	15.8
3	Joniya Drain	L2	26.75	81.36	17.2	29.9
4	Naiya Drain	L3	26.72	81.52	25.2	58.7

SARAYAN BASIN: MAJOR SUB-BASINS



GONA BASIN

Gona River UID Code:
Basin Area: 560.93 Sq. Km.
Number of rivers- 06
River network- 170 Km

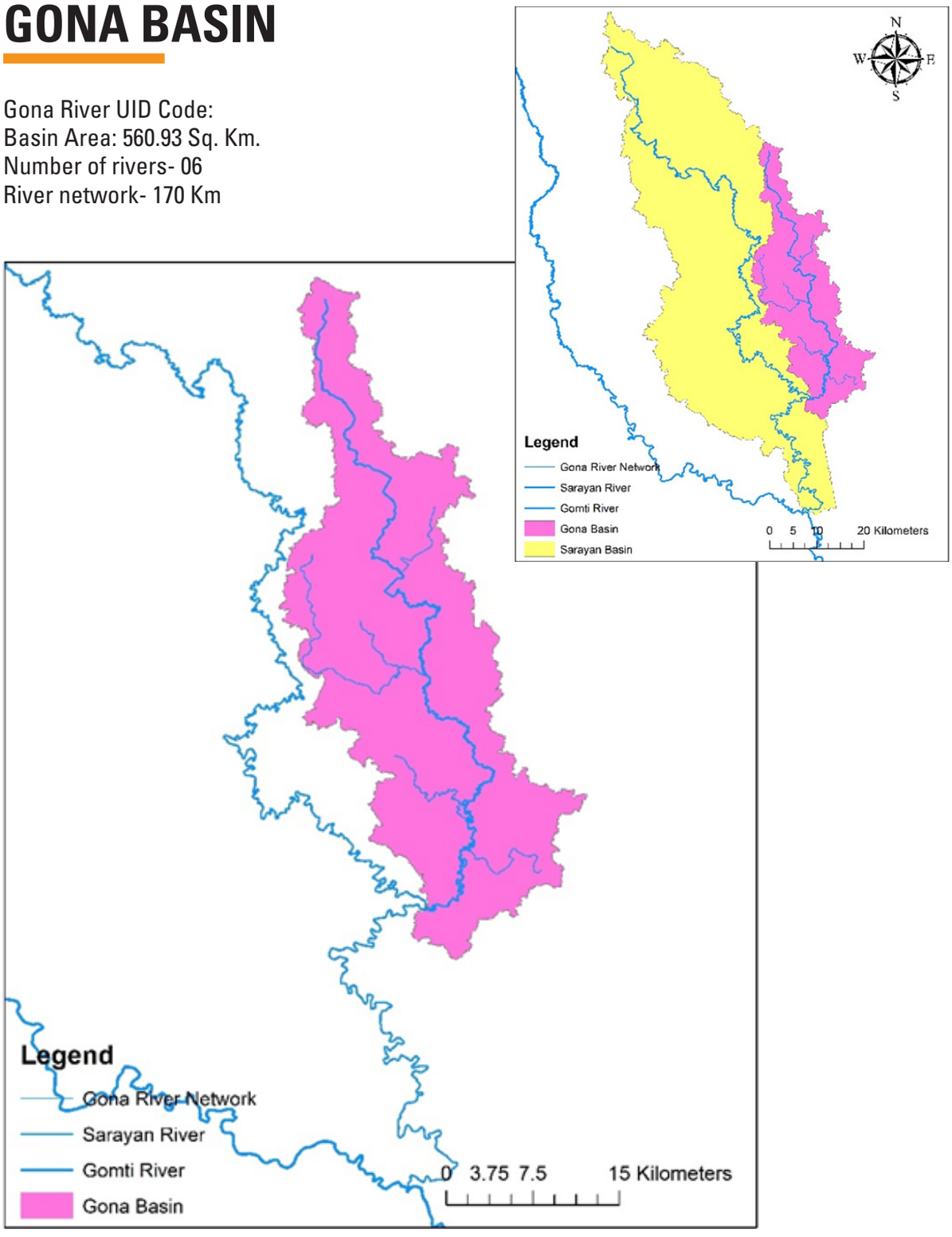


Figure: Gona River Network

GONA RIVER MAINSTEM FLOW DIAGRAM

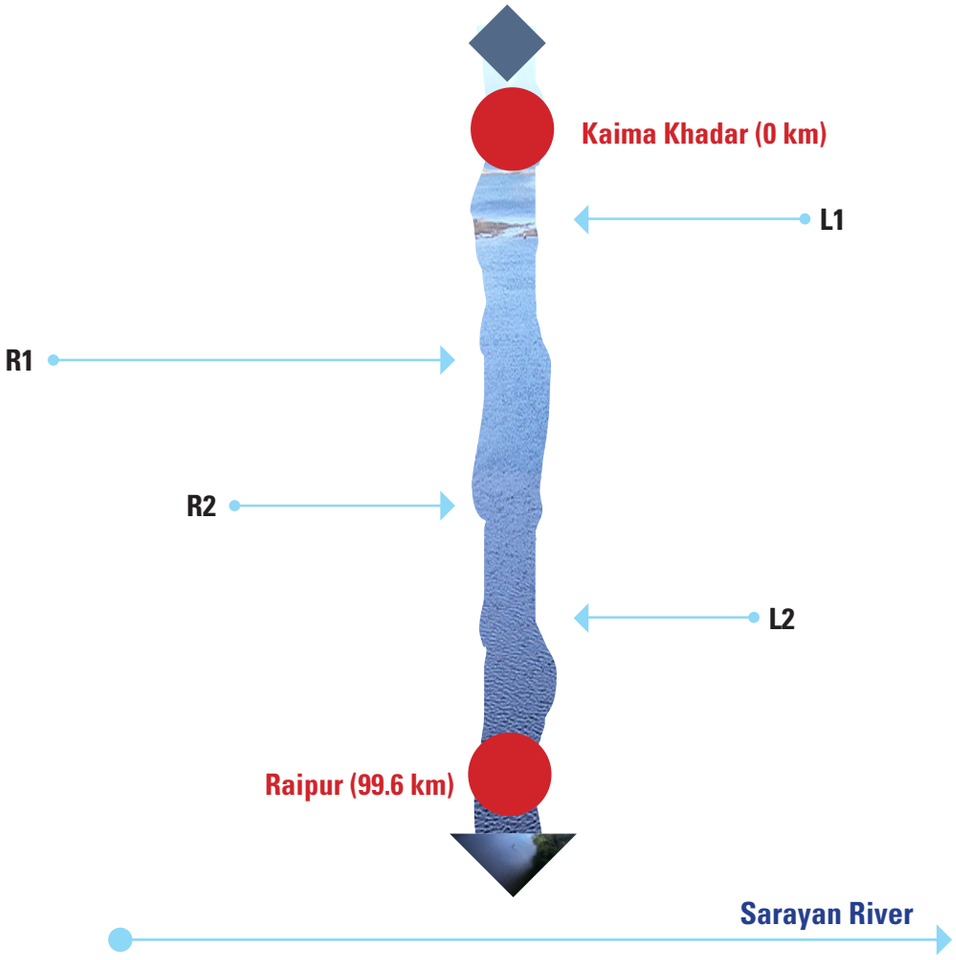
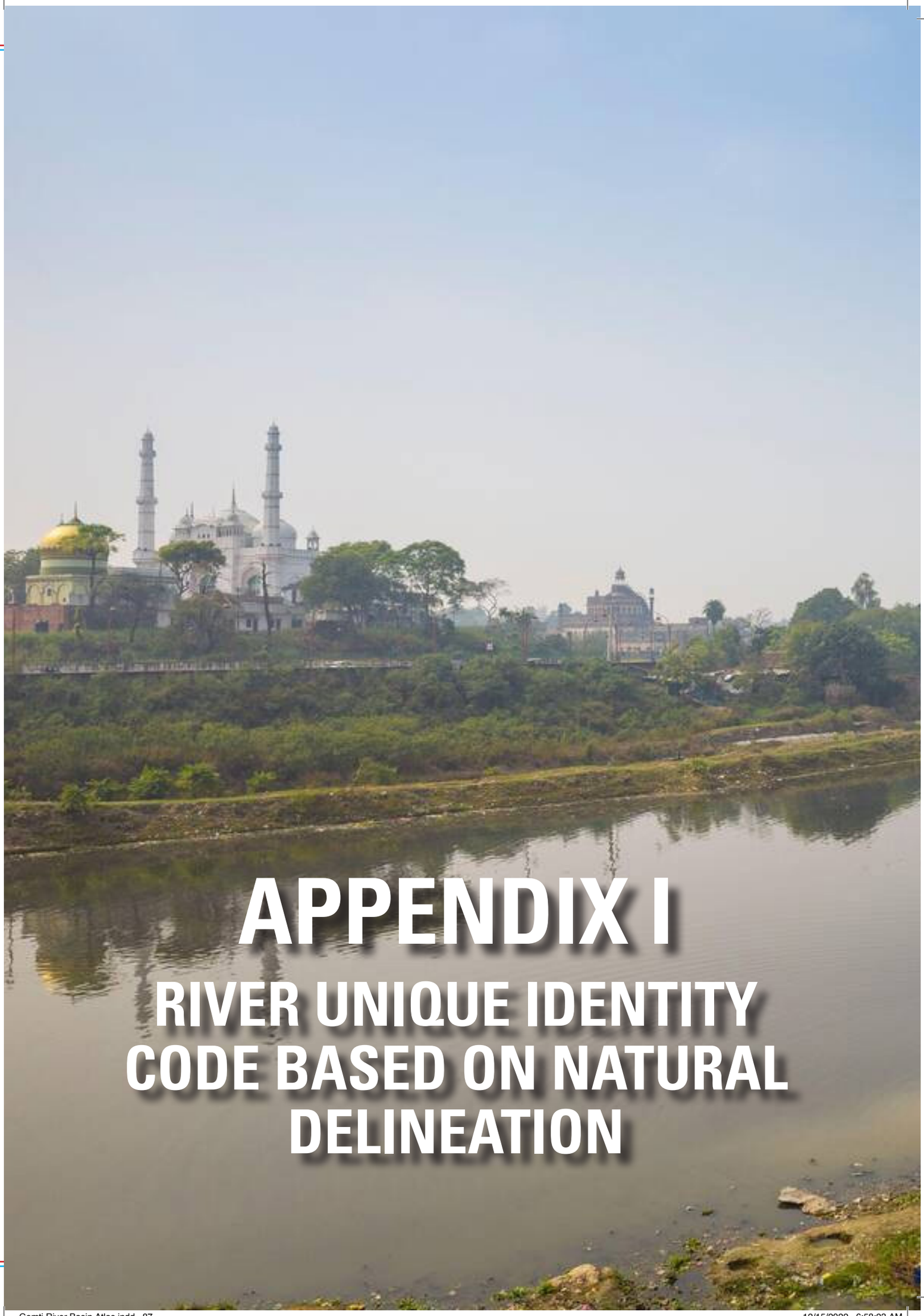


Figure: Flow Diagram of Gona River Network

GONA RIVER MAINSTEM NETWORK						
S.No.	River Name	Confluence Bank	River Length (Km)	Confluence Co-ordinate		Distance from origin (km)
				Lat	Long	
1	Bhadewan Drain	L	8.24	26.84	81.30	12.3
2	Gaura Drain	R	12.4	26.82	81.30	15.8
3	Barkawajor River	L	17.2	26.75	81.36	29.9
4	Drain	L	25.2	26.72	81.51	58.7

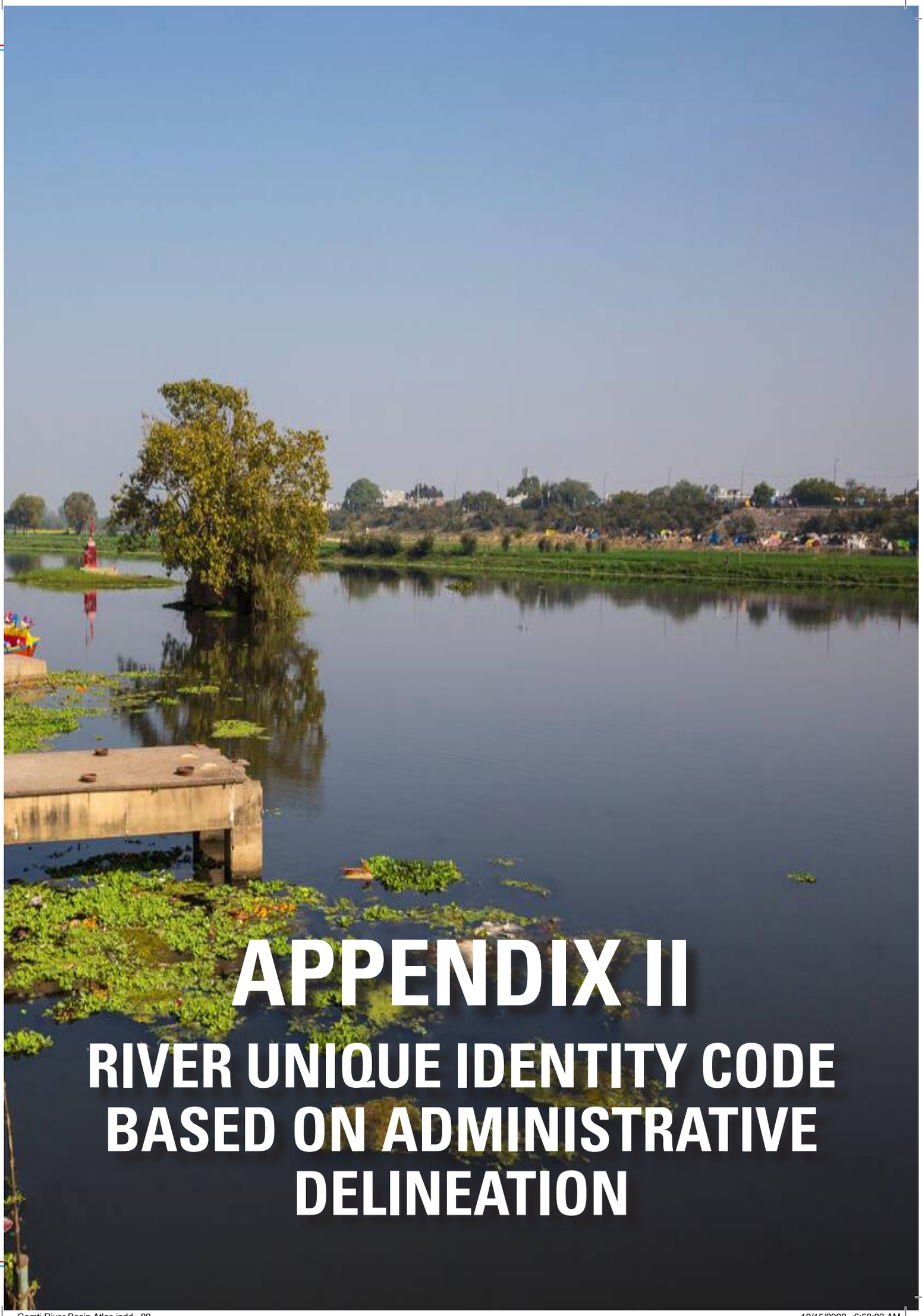


APPENDIX I

RIVER UNIQUE IDENTITY CODE BASED ON NATURAL DELINEATION

RIVER UNIQUE IDENTITY CODE BASED ON NATURAL DELINEATION: GOMTI BASIN

S.No	River Code	Origin Data			Confluence Data				
	Unique Identification Number	Co-ordinate		Ele (m)	Co-ordinate		Ele (m)	Confluence with	Length Of the river (km.)
		Lat	Long		Lat	Long			
1	02-L-44	28.62	80.13	614	25.51	83.17	191	Ganga River	952
2	02-L-44-L-01	28.58	80.13	184	28.50	80.09	179	Gomti River	14.9
3	02-L-44-L-02	28.51	80.12	181	28.41	80.13	173	Gomti River	12.5
4	02-L-44-L-03	28.53	80.20	179	28.47	80.17	177	Barua River	19.7
5	02-L-44-L-03-R-01	28.50	80.15	180	28.32	80.20	167	Joknai River	28.4
6	02-L-44-L-03-R-01-L-01	28.60	80.16	186	28.21	80.17	159	Gomti River	51.32
7	02-L-44-R-01	28.30	80.06	172	28.10	80.16	155	Bhainsi River	2.87
8	02-L-44-R-01-L-01	28.08	80.15	159	28.09	80.20	150	Gomti River	44
9	02-L-44-R-02	27.89	80.21	152	27.87	80.22	147	Chhuha Drain	3.18
10	02-L-44-R-02-R-01	27.99	80.17	156	27.79	80.27	136	Gomti River	46.47
11	02-L-44-R-03	27.97	80.06	157	27.74	80.27	134	Gomti River	70.71
12	02-L-44-R-04	27.48	80.25	140	27.51	80.29	135	Andi Drain	19
13	02-L-44-R-04-L-01	27.61	80.23	144	27.52	80.33	127	Gomti River	16.9
14	02-L-44-L-04-L-06	28.37	80.26	170	28.19	80.31	156	Kathna Rive	21.35
15	02-L-44-L-04-L-01	28.31	80.32	181	28.09	80.33	151	Kathna Rive	13.4
16	02-L-44-L-04-L-02	28.17	80.38	157	28.05	80.34	147	Kathna Rive	11.55
17	02-L-44-L-04-R-01	28.12	80.28	158	27.95	80.39	143	Kathna Rive	33.7
18	02-L-44-L-04-L-03	28.17	80.41	158	27.90	80.43	142	Kathna Rive	11.5



APPENDIX II

RIVER UNIQUE IDENTITY CODE BASED ON ADMINISTRATIVE DELINEATION

RIVER UNIQUE IDENTITY CODE BASED ON ADMINISTRATIVE DELINEATION: GOMTI BASIN

S.No	River Code	Village/ Town Entry Data		Village/ Town Exit Data		
	Unique Identification Number	Coordinates		Coordinates		Village/Town
		Lat	Long	Lat	Long	
1	356-UP-151-XX-02-01	28.61	80.12	28.59	80.12	Phulhar
2	356-UP-151-XX-02-01	28.59	80.12	28.59	80.11	Nawadia Tondarpur
3	356-UP-151-XX-02-01	28.59	80.11	28.58	80.10	Nawadia Dhanesh
4	356-UP-151-XX-02-01	28.58	80.10	28.57	80.08	Kakraja
5	356-UP-151-XX-02-01	28.57	80.08	28.55	80.07	Pachpera Khurd
6	356-UP-151-XX-02-01	28.55	80.07	28.54	80.07	Nawadia Maksudpur
7	356-UP-151-XX-02-01	28.54	80.07	28.52	80.07	Pachpera Pahladpur
8	356-UP-151-XX-02-01	28.51	80.08	28.50	80.08	Nawadia Sultanpur
9	356-UP-151-XX-02-01	28.51	80.08	28.50	80.08	Kharaua
10	356-UP-151-XX-02-01	28.50	80.08	28.49	80.10	Khandepur
11	356-UP-151-XX-02-01	28.49	80.10	28.48	80.10	Sherpur Makrandpur
12	356-UP-151-XX-02-01	28.48	80.10	28.48	80.10	Salehnagar
13	356-UP-151-XX-02-01	28.48	80.10	28.47	80.10	Gajraula Zobti
14	356-UP-151-XX-02-01	28.47	80.10	28.46	80.10	Ghatampur
15	356-UP-151-XX-02-01	28.46	80.10	28.45	80.10	Shahbagpur
16	356-UP-151-XX-02-01	28.45	80.10	28.44	80.10	Haripur
17	356-UP-151-XX-02-01	28.44	80.10	28.43	80.11	Itaupua
18	356-UP-151-XX-02-01	28.43	80.11	28.41	80.12	Ghamshyampur
19	356-UP-151-XX-02-01	28.41	80.12	28.40	80.12	Garibpur
20	356-UP-151-XX-02-01	28.40	80.12	28.38	80.12	Tanda
21	356-UP-151-XX-02-01	28.38	80.12	28.37	80.14	Shimbhua
22	356-UP-151-XX-02-01	28.37	80.14	28.37	80.14	Raghnathpur
23	356-UP-151-XX-02-01	28.37	80.14	28.35	80.15	Sundarpur
24	356-UP-151-XX-02-01	28.35	80.15	28.35	80.15	Sikhrahna
25	356-UP-151-XX-02-01	28.35	80.15	28.34	80.15	Piparia Mjhra
26	356-UP-151-XX-02-01	28.34	80.15	28.32	80.16	Banjar Ganj
27	356-UP-180-XX-02-01	27.555	81.332	27.536	81.339	Baharpur
28	356-UP-180-XX-02-01	27.536	81.339	27.503	81.364	Murauwa
29	356-UP-180-XX-02-01	27.503	81.364	27.495	81.375	Pipri

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